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The Visual Lesions in Certain Pathological Conditions of the Genital Tract in Cows *

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The observations reported here have been made on 230 uteri, 81 abnormal and 149 apparently normal, obtained from cows slaughtered in Ayr slaughterhouse. They were all from local cows, and the history of the animals was obtained as soon after slaughter as possible. In most cases we were able to ascertain the age of the cow, the number of calves it had had, and full details of all its previous calvings, *i.e.*, whether normal or abnormal and whether the placenta had been retained or any discharge occurred.

Bacteriological examinations have been carried out on these uteri and on their associated Fallopian tubes and cervices. Cultures have been incubated on blood agar, glucose serum broth, Robertson's meat medium, liver infusion agar and bacto tryptose agar aerobically, anaerobically and microaerophilically. All organisms isolated have been fully examined for their morphological and biochemical characteristics and have been classified according to Bergey's (1939) classification.

At the moment the material is also being examined pathologically, but the results are not yet ready, so I shall confine my remarks to what you see macroscopically, *i.e.*, the visual lesions, and correlate these appearances with my bacteriological findings without going into great detail.

I must emphasise that the conclusions I shall draw and most particularly the divisions into which I have grouped the material, are very tentative. They are mainly for ease and clearness of presentation, and will possibly have to be modified considerably as further information becomes available.

I intend to confine my remarks entirely to the uterus, the Fallopian tubes and the cervix, for though the state and period in the cycle of the ovaries have been taken into consideration in every case I do not intend to deal with either these or the vagina.

UTERUS

An involuting uterus is highly susceptible to infection as there are large areas of raw surface containing remnants of disintegrating placental tissue and numerous blood clots. It is open to infection from both the cervix and the blood stream. Any such infection causes a tissue response varying with the organism responsible and the duration of infection. The reaction may be of any type from a simple inflammation, *i.e.*, endometritis, to a purulent necrosis, *i.e.*, advanced pyometra.

As the subject is rather complicated, I am going to try to simplify it by referring to charts, interposing specimens, slides or films where I have them.†

I propose to divide the macroscopic lesions of the uterus into four and to describe each separately.

1. Endometritis.

(*a*) *Catarrhal Endometritis.*—By this I mean a simple inflammation of the endometrium with or without some non-purulent discharge. In the mildest form there was no obvious change in the size of the uterus or the thickness of its walls. A slight catarrh covered the mucosa in a thin layer, which was often confined to certain parts of the horn. In some the mucosa was pale and showed only traces of cotyledons while in others it was rather difficult to appreciate any change macroscopically. The discharge was slight and was not sufficient to flow out into the cervix. In more advanced cases the uterine horns were tough and tumefied with a light yellowish-grey lustreless peritoneal serosa. On section the wall was rather thickened with enlargement of one or both horns (usually that recently gravid) in which the reaction was more advanced. The infection from this horn spread to its companion *via* the body of the uterus. There was a thick greyish-white catarrhal exudate with numerous yellowish flocculi, often sufficient to flow out freely from the cervix. The mucous membrane showed yellowish or greyish-brown discoloration, distributed in patches about the size of a penny all over the surface. It was oedematous and the normal lustre and smoothness were absent. Cotyledons were entirely missing or reduced to varying sized greyish-yellow elevations with depressed tops. In such cases of advanced endometritis it was not uncommon to find co-existing lesions in the Fallopian tubes and ovaries.

These two stages of endometritis seem to merge into one another. The earlier cannot be diagnosed clinically but the more advanced can be diagnosed by the cervical discharge where this occurs. From the available histories, however, it appears that there is no absolute relationship between the duration of sterility (presumably the duration of infection) and the quantity of discharge or degree of reaction. In my series there have been 25 cases of endometritis as defined above. In these 25 I found ten with pure staphylococcal infection, three with a protozoon, possibly *T. foetus*, though the clinical herd history was not typical, two were sterile and the other ten harboured a mixed flora of staphylococci, streptococci, *Bact. coli* and diphtheroids other than *Corynebacterium pyogenes*. Of these, 17 had a history of being difficult to settle or were definitely sterile. Quinlan (1929), in South Africa, has recorded similar lesions in 68 cows slaughtered because of incurable sterility.

(*b*) *Necrotic Endometritis.*—This has been found in 12 uteri, of which four contained Gram negative bacteria (not *Bact. coli*), one contained a staphylococcus, two mixed infections and five were sterile. Externally the uterus appeared normal except that the serosa showed extensive reddish discoloration. On palpation of typical cases the walls were flabby with complete lack of tone, the tissues were very soft and friable and were easily crushed and torn when pressed by forceps or fingers. When opened a large quantity of curdy exudate containing flakes of necrotic tissue flowed out. The mucous membrane was atrophic, brick red, rough, and pitted with darker necrotic spots, while the cotyledons were replaced by large shallow areas. In a few cases the cotyledons were represented by varying sized pea-like elevations placed close together all over the mucosa. In every case the mucous membrane was studded with small yellowish-grey spots looking as though bran had been sprinkled over the surface.

In some, the uterine walls, while flabby, were very thin and leathery to touch, the whole uterus giving the impression of being in a state of collapse. The mucous membrane was thrown into four or five thin ridge-like longitudinal folds and was of brick red colour, dry, rough and studded with necrotic spots.

(*c*) *Purulent Endometritis.* This is probably an artificial clinical distinction and really represents an early stage of pyometra. Bacteriologically, it was almost always caused by *C. pyogenes* either alone or in mixed culture (19 out of my 20 cases).

In the early stages either one or both horns were affected. If only one it was slightly enlarged with tense walls and a normal serosa externally. Internally, it contained a thick muco-purulent creamy discharge scattered over the mucosa, occurring especially as small clumps around the cotyledons. When this was scraped off the mucous membrane was seen to be inflamed with pin-point necrotic spots and erosions while the cotyledons themselves showed numerous necrotic spots. Occasionally there were small pieces of necrotic tissue mixed with the pus. The discharge was not sufficient to fill the lumen of the horn though in some cases there was sufficient to flow into the other horn through the body of the uterus. The mucosa as a whole was smooth and thickened, and varied from light yellow to light brown in colour. Such a condition seems to follow relatively rapidly after calving and, pathologically, merges into my next type.

(*d*) *Pyometra.*—In early cases of this, both horns frequently were symmetrically enlarged but cases were also found where they were unequal in size with thick flabby walls. The tubal end of the horn was rounded and pouch-like. The serosa was discoloured and lustreless while internally the horns contained creamy pus which often had small blackish floccules in it. The mucous membrane was light pink to dark brown with areas of greyish-black discoloration and often small necrotic spots and erosions.

* Paper presented to the Ayshire Division, N.V.M A., at Ayr on February 18th, 1948.

† The charts are omitted from the paper to economise space.

In long-standing cases there was an enormous enlargement of one or both horns, depending upon the amount of pus. The serosa was greyish-black, thick, moist and sticky. In two cases there were peri-uterine abscesses on the body, horns and broad ligaments. They varied in size from that of a walnut to that of a hen's egg. The walls of the uterus were thin and the anterior extremity of the horn folded upon itself. On palpation there was usually fluctuation and the walls were thin and leathery. The pus varied in consistency from a thick sauce-like liquid to a semi-solid, and from cream yellow to dark grey in colour. In quantity it varied from one to several litres. In one case about 20 litres of pus were noted. In some cases parts of the macerated foetus were mixed with the pus which often had an offensive odour. The grey-black mucosa showed small and large areas of erosion which were both shallow and deep. The cotyledons were either absent or, if present, were only very small, necrotic and gangrenous. In advanced cases the mucosa was thicker and blacker and the erosions were more extensive. There were also more extensive nodular thickenings, the whole appearance being not unlike the skin of a lizard. Even this advanced type can occur rapidly, since I found it in one case within 12 days of calving when the whole uterus was completely packed with semi-solid bran-mash-like pus.

Pyometra was often accompanied by pathological changes in the cervix, Fallopian tubes and ovaries. The cervix was either stenosed and tightly closed (in well-established cases) or partially open with a dirty brownish-grey discharge in the canal (in post-parturient infections). In very advanced cases the cervix was flabby and open with a purulent discharge. In every case of advanced pyometra a large persistent corpus luteum was present in one ovary. In the other ovary there was no evidence of any developing graafian follicles.

2. Tuberculous Metritis.

I do not intend to refer to this in great detail since I have seen only two apparent cases, as the animals came from an area which is almost completely free from tuberculosis. One of these appeared to be a case of primary uterine infection since no lesions were observed macroscopically anywhere else in the carcase. The uterine horns were symmetrically enlarged. The walls were thick and tense. The serosa was yellowish pink in colour. The cervix was thickened and contained yellowish viscid mucus. The lesions in the uterus consisted of numerous lentil-sized glistening nodules with a yellowish mucoid exudate. This exudate and the nodules were rich in acid-fast bacilli morphologically identical with *Myco. tuberculosis*. The Fallopian tubes were apparently normal. The other case was a very good specimen of descending infection of both uterine horns. The peritoneum was grossly infected, showing obvious tuberculosis. The infection had involved the ovaries, the broad ligaments and the Fallopian tubes and had then spread internally down the horns *via* the Fallopian tubes. The lesion was a diffuse inflammation with pinhead-like glistening tubercles protruding from the surface of the endometrium. The endometrium was pink, smooth and thickened. The older lesions were found at the tubal end and became smaller as they extended down the horn. No macroscopic lesions could be detected in the lower half of the horn or in the body or the cervix. Though there was some yellowish mucoid exudate which contained many acid-fast bacilli, there was no discharge from the cervix itself.

3. Cystic Degeneration.

I have seen eight cases of this condition. The name is possibly a misnomer but it describes the type of lesion I am about to discuss. The horns were symmetrically enlarged with thick flabby walls, the uterus was doughy and the mucosa covered with a tough, tenacious cloudy mucus spread more or less evenly in a thin layer over the whole surface. A few yellowish flocculent masses were occasionally seen and in one case the exudate was a chocolate-coloured gelatinous mass. The mucous membrane was pale and thickened with small, smooth, glistening greyish cysts, varying in size from that of a pinhead to that of a barley grain, protruding slightly above the surface. They were mainly confined to the lower and middle thirds of the horns although sometimes they extended right through the cervix to the os uteri. In such cases the cervix was enlarged and somewhat sclerotic. The mucosa of the cervix also showed small pale cysts. All the cysts contained a greyish translucent mucoid fluid. In old-standing cases the horns themselves were packed with a glairy tenacious mucus similar to the cervical plug of pregnancy. This was so compact that it could be rolled out of the horns as a mould. The cotyledons were completely absent. Beaver *et al.* (1922) and Wright (1945) have recorded similar lesions in sterile cows.

4. Hydrometra.

The next and last abnormality of the uterus I wish to mention is hydrometra, of which I have seen two cases. This condition is not to be confused with hydrops amnii, as this latter is a condition of the pregnant uterus and is related to the foetal membranes. Hydrometra, on the other hand, occurs in the non-gravid uterus and is an abnormal condition of the uterus itself. In one of my cases the condition was confined to one horn which was enlarged and simulated pregnancy. In the other case both horns were about equal in size. The walls were thin and the fluid fluctuated in the same manner as in a gravid horn but when examined the walls were very much thinner than in pregnancy and were leathery. In each case the cervix was stenosed and closed with a false uterine seal and there was a large persistent corpus luteum. The Fallopian tubes were normal. In one the serosa was normal and the fluid thin and cloudy. In the other the serosa was bluish and congested and the contents were thin, viscid and coffee coloured. The mucous membrane was thickened and oedematous with pitted yellowish grey spots about the size of a threepenny-piece scattered all over it. In neither was there any sign of a foetus, foetal membranes or cotyledons and both cases were sterile. Quinlan (1929) has met with one case of hydrometra, and he states: "The cause of hydrometra would appear to be cervical deformity, which rendered the escape of oestral debris through the ostium uterinum impossible." Williams (1921) has recorded a similar case in which the canal was open and admitted the uterine catheter. I cannot advance any suggestion as to the cause of this condition but care must be taken to distinguish it clinically from pregnancy. In one of my cases the history of the cow showed that it had had seven calves and at the time of slaughter was said to be in calf.

FALLOPIAN TUBES AND CERVIX

That is all I have to say about the conditions I have observed in the uterus itself. The only other parts of the genital tract I am going to discuss are the two which may be regarded as appendages of this organ, *viz.*, the Fallopian tubes and cervix.

The Fallopian tubes are naturally involved in uterine infection though gross changes are not so common as in the uterus itself. In my series approximately one-third of the affected uteri also showed salpingitis. In some the whole length of the tube was affected, in others the lesions were confined to certain portions such as the extremities. Simple bilateral inflammation of the Fallopian tubes without appreciable distension of the duct with lymph or purulent discharge was the commonest type of lesion. The tubes were thin walled and varied in colour from greyish white to light yellow. They showed great flexibility and mobility and contained either a clear, straw-coloured or a thick, cloudy fluid in which were suspended small floccules. This type of lesion was associated with catarrhal endometritis and the bacteria present were those also found in the uterus.

In cases of more virulent uterine infection the Fallopian tubes showed either acute or chronic lesions. In the acute type the tubes were greatly convoluted and were swollen to varying degrees up to the thickness of a cigarette. The peritoneal surface was tense, glistening and showed petechiae. The mucosa was in thick folds, swollen and often petechiated. The opposing folds were in contact, occluding the lumen of the tubes, and occasionally these gave the appearance of being beaded.

In more chronic cases the walls were much thickened, leading to kinking and deformation of the tubes, and in a few, thin fibrous strands passed from the tubes to the meso-salpinx and the ovary. When this occurred the pavilion showed chronic thickening and was partly or completely adherent to the ovary. When compressed a little yellowish pus could be expressed from the abdominal end of the tube which was packed with a thick mucoid yellowish material. In some specimens there was free drainage of purulent material into the cornu uteri. This type was usually secondary to pyometra but in some other cases of salpingitis it was not possible to isolate any organism in the uterus (which was apparently normal in appearance) though various bacteria, *e.g.*, *Bact. coli*, were present in the tubes themselves. In my only case of tuberculous salpingitis the infection was a direct extension from the peritoneal cavity. Both the Fallopian tubes were affected. The fimbriated extremity of the tube was thickened and adherent to the ovary. The whole length of the tube was irregularly enlarged and highly convoluted. On palpation it was firm and nodular. Barley- to large pea-sized, glistening friable lesions were found on the ovary, Fallopian tubes, uterus and broad ligaments. On section the lumen of the tube was found to be packed with a yellowish caseous material. On scraping the contents away the mucosa appeared yellowish brown and showed small congested spots.

Another interesting condition found associated with the Fallopian tubes was a cystic condition of the broad ligament along their course. The cysts varied in size from that of a pea to that of a small grape and were situated close to the external wall of the tube on one or both sides. They had no communication with the lumen of the tube. The walls of the cyst were thin, tense and glistening and the cysts contained a clear, colourless fluid. If small they appeared harmless, except that the course of the tube was slightly altered, but if two fairly large cysts happened to be on either side opposite each other the Fallopian tube was crushed between them with consequent

obliteration of the lumen. Such a condition would result in mechanical obstruction to the passage of the ovum along the duct. At a clinical examination this condition could not be distinguished from a cystic condition of the tube itself.

The Fallopian tubes are the inner openings of the uterus. The outer opening is the cervix, pathological changes in which have been described by Williams (1939), Nielsen (1926), Quinlan (1929), and others. Inflammatory changes of the cervix may be either primary or secondary to uterine infection. Primary cervicitis is due to injury, particularly during parturition or by infection from the bull (*e.g.*, Williams (1921) gives instances of widespread cervicitis due to the bull which involved 60 per cent. of the cows). Both acute and chronic secondary cervicitis were encountered. In acute cases the cervix was swollen with the mucous membrane inflamed and raspberry red. It was often so tense that the os looked like a ripe tomato with a moist sticky surface and the first cervical fold protruding through the os into the vagina. In subacute cases mucus mixed with yellowish purulent flocculi was often present in the anterior part of the vagina surrounding the os uteri. If pyrometra was present the discharge was purulent. In chronic cases the cervix was firm (almost hard) and enlarged with a more mucoid and less purulent discharge. The enlargement was very prominent at the caudal end owing to fibrosis of the walls of the cervix. In these cases the mucous membrane of the cervix was a dirty brick-red colour, studded with greyish spots, with a brownish yellow tenacious discharge sticking all over the os uteri. While this could be indicative of a mucoid degeneration of the mucous membrane, the cervical canal often contained a dirty, chocolate-coloured watery discharge with purulent yellowish floccules. The discharge in secondary cervicitis naturally yields the bacteria causing the uterine infection.

In old cases of cervicitis polypoid cauliflower-like growths protrude into the canal, sometimes completely enclosing it. Such growths were especially seen in old cows and were presumably due to injury rather than to infection.

In conclusion, I would like to emphasise that my work is not by any means complete and that both the terminology used and the conclusions reached are tentative and may have to be modified as the work proceeds.

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MASTITIS SCHEME FOR DEVON

The formation of an association to combat the incidence of mastitis in dairy cows, proposed by Devon Farmers' Union, was approved in principle by a representative meeting at Exeter (states the *Western Morning News*), and continues: "The N.F.U. scheme is similar to the one started by Devon County Council in 1942, and abandoned in 1946, after the Council had been informed that they could not legally pay the cost. The Council, by arrangement with the governors of Seale-Hayne Agricultural College, used laboratories and the services, on a part-time basis, of veterinary and technical staff. The new scheme will be carried out by dairy farmers joining together and working on a co-operative non-profit-making basis. The rules have still to be worked out, but the cost will probably be defrayed from membership fees augmented by an annual payment for each cow in the herd.

"Laboratory facilities are essential, and an approach is being made to the governors of Seale-Hayne with a view to entering into arrangements similar to those which operated during the County Council scheme.

"Advice on treatment will be given always through the farmers' own practitioners.'

* * * * *

A heifer owned by Mrs. Laura Betty, of Curry Rivel, near Taunton, climbed the 175 ft. spiral staircase of the Pynsent Monument, a well-known landmark. Its bellowing attracted the attention of two of Mrs. Betty's sons, who saw that it was attempting to get on to the open platform surrounding the dome. They made a cautious approach and were able to lead the heifer safely down the 172 steps to the herd. The monument was erected by William Pitt, first Earl of Chatham, in memory of his benefactor, Sir William Pynsent, in 1768.

The Legal Position with Regard to Meat Inspection in England and Wales

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Definition

The term "meat inspection" is used to denote the examination of meat and meat products with a view to determining their suitability for human food. In its widest sense it covers the examination of the live animal and the processes and conditions to which it is subjected from the time the animal arrives at the slaughterhouse until the meat or the meat products are delivered to the general public by the retailer.

In practice, meat inspection falls into three parts: (*a*) the supervision of the slaughtering and dressing of carcases; (*b*) the supervision of manufactured meat products such as sausages, brawn and other prepared meat foods, and (*c*) the supervision of meat and meat products in the course of distribution and sale in the retail shop. The two latter forms of meat inspection are mainly concerned with the maintenance of a reasonable standard of hygiene in the factory and shop and the inspection of the meat with a view to ensuring that contamination and putrefactive changes have not occurred. It also acts as a valuable check on the efficiency of inspection in the slaughterhouse and as a deterrent to unscrupulous traders.

Objects of Meat Inspection

The Public Health Acts state that food is unsuitable if it is diseased, unsound, unwholesome, and unfit for human consumption or if it is not of the nature, substance or quality demanded by the purchaser.

Meat should be considered unfit if it is infected with bacteria or other micro-organisms or infested with parasites which are likely to be transmitted to human beings, or if it is diseased or in such a condition as to be likely to have a deleterious effect on the health of the consumer. It may also be rejected if it is lacking in nutritive value or if it is offensive by reason of smell, taste, or appearance.

Meat inspection is also a means of protecting the public from the fraudulent substitution of flesh obtained from animals which are not normally used for the production of butchers' meat, such as the substitution of horse flesh for beef, goat for mutton, and cat for rabbit.

Under the Merchandise Marks Acts it is also concerned with the substitution of imported for home-killed meat.

Historical

The earliest record we have with regard to the fitness or otherwise of human food, is found in the Bible. Leviticus (the 3rd Book of Moses) Chapter XI contains a list of the animals, birds, fish and invertebrates, the flesh of which may, or may not, be eaten by the Jews, and rules dealing with contaminated food and vessels.

The 5th Book of Moses (Deuteronomy) also contains similar detailed provisions—"Thou shalt not eat any abominable thing. These are the beasts which ye shall eat: the ox, the sheep, and the goat. . . . And every beast that parteth the hoof, and cleaveth the cleft into two claws and cheweth the cud. . . . And the swine, because it divideth the hoof, yet cheweth not the cud, it is unclean unto you: ye shall not eat of their flesh nor touch their dead carcase" (Deuteronomy, Chapter XIV, Verse 3 onwards). "Whatsoever parteth the hoof and is clovenfooted and cheweth the cud, amongst the beasts, that shall ye eat. Nevertheless these shall ye not eat of them that chew the cud, or of them that divideth the hoof; as the camel, because he cheweth the cud but divideth not the hoof; he is unclean to you. And the coney. . . . And the hare, . . . And the swine, though he divide the hoof and clovenfooted, yet he cheweth not the cud; he is unclean to you. Of their flesh shall ye not eat, and their carcase shall ye not touch; they are unclean to you" (Leviticus, Chapter XI).

"And upon whatsoever any of them, when they are dead, doth fall, it shall be unclean; whether it be any vessel of wood, or raiment, or skin, or sack, whatsoever vessel it be, wherein any work is done, it must be put into water, and it shall be unclean until the even; so it shall be cleansed. And every earthen vessel, where into any of them falleth, whatsoever is in it shall be unclean; and ye shall break it. Of all meat which may be eaten, that on which such water cometh shall be unclean: and all drink that may be drunk in every such vessel shall be unclean. And every thing whereupon any

part of their carcase falleth shall be unclean; whether it be oven, or ranges for pots, they shall be broken down; for they are unclean, and shall be unclean unto you. Nevertheless a fountain or pit, wherein there is plenty of water, shall be clean: but that which toucheth their carcase shall be unclean" (Leviticus, Chapter XI, Verse 32). Moses forebade his followers to eat blood. "Only be sure that thou eat not the blood: for the blood is the life; and thou mayest not eat the life with the flesh" (Deuteronomy, Chapter XII, Verse 23).

It is interesting to note that these laws were made entirely to protect the Jews and that Moses was apparently quite content to allow the flesh which was considered unfit for the Jews to be eaten by the Gentiles. "Ye shall not eat of any thing that dieth of itself: thou shalt give it unto the stranger that is in thy gates, that he may eat it; or thou mayest sell it unto an alien: for thou art an holy people unto the Lord thy God" (Deuteronomy, Chapter XIV, Verse 21).

The Mosaic laws, contrary to popular belief, do not give instructions as to slaughtering. The Jewish method of slaughter was derived from the 5th Book of Michna (Chapters I to V) contained in the Talmud which was edited on the basis of oral and traditional evidence during the first five years of the Christian era. ("Pistol versus Poleaxe"—page 303—by Lettice MacNaghten, publishers Chapman and Hall).

The Babylonians also had laws with regard to the slaughter of food animals and the sale of meat.

The Greeks and Romans appointed officials to ensure that only sound meat was offered for sale. The Romans inflicted fines on those who sold meat which had not been passed as sound, condemned meat being disposed of by throwing it into the River Tiber.

In more modern times we find some forms of meat inspection were fairly well established in the 13th century and that public slaughterhouses were provided in certain parts of Europe—particularly in Germany.

Laws concerning meat inspection were in force in Scotland in 1153, France in 1163, Italy in 1221 and in Belgium in 1333. Capital punishment was inflicted in some Italian cities for repeated offences against the meat laws.

Astounding as it may seem, England has been notably lacking in enterprise with regard to the inspection of home-killed meat although it has insisted, in modern times, on a rigid system of meat inspection in those countries which have exported meat for sale in Great Britain, and this attitude has forced the exporting countries to institute model meat inspection services for this purpose.

Laws Governing Meat Inspection in England and Wales

The main legal enactments with regard to meat inspection, and especially with regard to home-killed meat, in England and Wales, are contained in the Food and Drugs Act, 1938, and the Public Health (Meat) Regulations, 1924, whilst a guide as to those diseases and conditions which should lead to the rejection of meat as unfit is laid down in the Ministry of Health Memoranda, Nos. 62/Foods (1923) and 62b/Foods (1948).

Although the Public Health (Meat) Regulations were made under the Public Health (Regulations as to Food) Act, 1907, which was repealed by the Food and Drugs Act, 1938, this latter Act, by virtue of section 101, sub-section 3, keeps the 1924 regulations in force.

The Food and Drugs Act, 1938, consolidates the law with regard to food inspection generally. Under this Act food may be inspected for unsoundness, etc., and samples taken for chemical or bacteriological examination.

An authorised officer is any officer of the local authority duly appointed under any provision of the Act and, as regards the taking of samples, includes any authorised police officer. The medical officer of health and the sanitary inspector shall be authorised officers for all purposes of the Act but no officer shall be authorised to examine or seize meat unless he is either the medical officer of health, a sanitary inspector or a member of the Royal College of Veterinary Surgeons.

The Food and Drugs Act, 1938 (Section 1), makes it an offence to add any substance to food rendering it injurious to health or to sell or have for sale any food unfit for human consumption.

The Public Health (Preservatives in Food) Regulations, 1925-1940, prohibit the *addition to foods of any colouring* which is a compound of antimony, arsenic, cadmium, chromium, copper, mercury, lead or zinc, picric acid, Victoria yellow, Manchester yellow, aurantia, aurine or gamboge.

They also prohibit *the use of any preservatives* in meat foods except saltpetre and sulphur dioxide and then only as follows:—Saltpetre (sodium or potassium nitrate) may be used only in bacon, ham, cooked or pickled meats in an amount not exceeding 200 parts per million. Sulphur dioxide may be used as a preservative for sausages and sausage-meat provided the amount does not exceed 450 parts per million and the fact is made known by a notice displayed in the shop, or by a label attached to the sausages or sausage-meat, in the prescribed manner.

The Food and Drugs Act, 1938, Section 3, makes it an offence *to sell to the prejudice of the purchaser* any food not of the nature, substance or quality demanded by the purchaser.

Section 6 makes it an offence to *label or advertise* food in such a manner *as to misrepresent* its nature, substance or quality, whilst Section 9 makes it an offence to sell, expose for sale or have in possession for sale, or for preparation for sale, or deposit, or consign to another person, unfit food intended for human consumption.

Food offered, or intended, as a prize in connection with any entertainment to which the public are admitted or for the purpose of advertisement, is subjected to the same provision as that exposed for sale (Section 11).

Examination and Seizure.—Section 10 gives power to an authorised officer to examine food at all reasonable times and, if it appears unfit, to seize it and take it to a justice of the peace for condemnation.

Condemnation.—An inspector cannot condemn food—his power is limited to seizure. He must give notice to the person in possession of the food of his intention to take it before a justice of the peace and any person, who may be liable to prosecution in respect of the food, shall have the right to be heard at the enquiry with witnesses. If the justice refuses to condemn any food so seized, the local authority shall compensate the owner of the food for any depreciation in its value resulting from seizure and removal.

This is an important addition to the older food laws; before the 1938 Act was passed, the inspector could remove the food and have it condemned by a justice and then destroyed—without the owner being present to raise any objection. When a prosecution followed such a procedure, the defendant was placed in the unfortunate position of having had his property declared unfit for food and destroyed, thus rendering him unable to have it examined by an independent expert.

It is obvious that under such circumstances the person proceeded against was usually unable to produce satisfactory evidence to combat that of the inspector, who had the advantage that the food had been declared unfit by the justice, whilst the justice of the peace was in most cases influenced to form an opinion as to the condition of the food on the advice given to him by the inspector—and not by his own knowledge or with the assistance of an independent expert.

Voluntary Surrender.—In most cases the butcher voluntarily surrenders to the inspector any food which the inspector considers unfit. Food which is handed over to an inspector under such circumstances is disposed of according to the wishes of the inspector, who may, or may not, remove it or arrange for its removal and destruction. Although there are no legal provisions (except in the London Acts) with regard to voluntary surrender, it is an old and well-established practice and no subsequent legal action (outside London) can be taken against the butcher in respect of such meat as is voluntarily surrendered as unfit for human consumption. Legal action can only follow in those cases where the meat is seized by the inspector.

It is the practice in some districts for an inspector to give a certificate to the effect that such food has been voluntarily surrendered to him in consequence of his considering it to be unfit for human food. Sometimes the reason for its unfitness is set out, but this is not invariably so. The trader, voluntarily surrendering any food, should ask for a receipt or a certificate from the inspector, although he has no legal right to demand one.

If a trader refuses to surrender any food declared to be unfit, the inspector will probably seize it and a prosecution may then follow.

Unless the trader has very good grounds for believing the inspector is wrong in considering the food unfit, he should endeavour to surrender it and thus obviate the risk of a prosecution. Should he refuse to surrender the food, the butcher should immediately take steps—preferably through his trade association—to have the food examined by an acknowledged independent expert.

Food Poisoning.—The Medical Officer of Health may require food, likely to cause food poisoning, to be retained or removed to a specified place pending investigation.

If investigations show the food to be harmless, the owner shall be compensated for any loss thus incurred (Section 18).

CLINICAL COMMUNICATION

Colloidal Iodine in the Treatment of Demodectic Mange

MILLER WATSON, M.R.C.V.S.

During the last four years I have kept records of a number of cases of dogs treated in a variety of ways for follicular mange. Since the trouble is one which may prove very resistant to therapeutic measures I feel that an abbreviated statement of treatments and results may prove of interest to other practitioners.

Group 1.—*Dogs Treated with Organic Sulphur Compounds*:—

Total cases recorded, 23; Clinical cures without recurrence (treatment extending from two to six weeks), 7; Apparent cures with recurrence in two to six months, 13; Failures, 3.

Group 2.—*Dogs Treated with Sulphur Compounds and Arsenicals Internally*:—

Total cases recorded, 17; Cures without recurrence, 9; Apparent cures with recurrence, 4; Failures, 4.

Group 3.—*Dogs Treated with "Gammexane" Externally*:—

Total cases recorded, 21; Cures without recurrence, 9; Apparent cures with recurrence, 8; Failures, 4.

Group 4.—*Dogs Treated with "Gammexane" Externally and Internally*:—

Total cases recorded, 7; Cures without recurrence, 4; Apparent cures with recurrence, 2; Failures, 1.

Group 5.—*Treated with Colloidal Iodine Oil*:—

Total cases recorded, 28; Cures without recurrence, 22; Apparent cures with recurrence, 5; Failures, 1.

Group 6.—*Treated with Colloidal Iodine after Failure with Other Treatments*:—

Total cases recorded, 25; Clinical cure after three weeks, 11; Clinical cure after four weeks, 5; Clinical cure after five weeks, 8; Failures, 1.

As is well known to practitioners, one of the difficulties in the treatment of demodectic mange is the deep-seated location of the parasite. It is found deep in the dermis, in the sebaceous glands, sweat glands where they exist and even in the lymphatic glands. I have found the parasites present in the submaxillary lymph glands of newly born pups and in pups up to the age of three months which have never shown clinical signs.

It would appear that the ideal clinical treatment of this disease would involve the use of a therapeutic substance which is lethal to the parasite and which is absorbed into the system in sufficient amount to destroy the parasites in the "reservoirs" of the lymphatic system. From my own records it would seem that the use of colloidal iodine is greatly superior for this purpose to the other substances with which I have experimented.

The colloidal iodine used by me was that prepared by Crookes or one prepared by me on my own premises. The method of application in all cases was to rub the oil well into the skin (until the colour disappeared) at intervals varying from three days to one week. Best results were apparently obtained by applying the oil every fourth day. Five or six applications were usually sufficient to effect a clinical cure.

Apart from its parasiticidal action, the colloidal iodine was much more effective in stimulating the regrowth of hair than the other substances used.

Weekly Wisdom

". . . *Everyone knows the tale that once when Abernethy, the Bartholomew's surgeon, entered the lecture theatre at the beginning of a new session, he looked at the students and exclaimed, 'Good God, what is to become of you all?' Paget with the help of Callender and Thomas Smith tried to answer the question by laboriously tracing a thousand students. The statistical results may be found in the* St. Bartholomew's Hospital Reports *for* 1869. *The essay ends with this conclusion, characteristic of Paget: 'Nothing appears more certain than that the personal character, the very nature, the will of each student has far greater force in determining his career than any helps or hindrances whatever'. . .*" Sir William Hale-White, *Great Doctors of the Nineteenth Century*. (p. 165). 1935. London: Ed. Arnold & Co.

* * * * *

Dr. George M'Creath Wyburn, Senior Lecturer in the Anatomy Department of Glasgow University, who has been appointed Regius Professor of Anatomy in the University in place of Professor William James Hamilton, who has retired, is examiner in embryology and histology for the Royal College of Veterinary Surgeons.

ABSTRACTS

[**Mastitis in Beef Cattle.** Bryan, C. S. (1946.) *Quart. Bull. Mich. Sta. Coll. Agric. Exp. Sta.* **29**. 1-3.]

In a series of 50 cases of acute mastitis in beef cattle, 29 were due to *Staph. aureus*, 12 to *Bact. coli*, six to *Str. agalactiae*, two to *Str. dysgalactiae*, and one to *Str. uberis*. A bacteriological study of 56 lactating beef cows in three herds revealed four cases of chronic mastitis due to *Str. agalactiae*, two due to *dysgalactiae* and one to *uberis*. It would appear, therefore, that mastitis in beef cattle is caused by the same organisms as in dairy cattle but that the incidence of chronic streptococcal mastitis is low and the incidence of acute staphylococcal mastitis relatively high.

P. S. W.

* * * * *

[**Depletion of Hepatic Reserves of Vitamin A and Carotene in Cattle.** Frey, P. R., & Jensen, R. (1946.) *J. Nutrit.* **32**. 133-141.]

The authors studied the rate of depletion of vitamin A and carotene reserves in the livers of two lots of steers specially fed on two separate diets. There were 140 animals approximately 18 months old and all from one herd. Twenty-two were slaughtered before special feeding began. Ninety-eight were hand-fed with a carbohydrate fattening ration deficient in carotene and 20 were self-fed on a maintenance ration high in carotene. Random lots of animals were slaughtered at 40-day intervals and liver samples analysed. The fall in vitamin A was greater than that of carotene though the rate of depletion of both fell as the concentration decreased. In both groups the ratio of carotene vitamin A rose as the liver reserves diminished. No clinical evidence of avitaminosis occurred and there was no difference in the amount of vitamin A and carotene between normal and abnormal livers.

P. S. W.

* * * * *

[**Uraemia in Unweaned Calves.** (Trans. title.) Rossi, P., & Lamy, E. (1947.) *Bull. Acad. vét. Fr.* **20**. 123.]

A condition is described which affected a large number of unweaned calves while they were kept in a stone-walled enclosure in a certain farm. Symptoms occurred at six to eight weeks old in the form of sudden excitement, followed by inco-ordinated movement. Prostration followed after 20 minutes, and death supervened two or three hours later. A total of 30 deaths was recorded. The results of a *post-mortem* examination on one carcase showed no macroscopic lesions apart from slight congestion of the kidneys. Absence of arsenical poisoning was confirmed by laboratory findings, but an abnormally high content of urea was found in the blood as well as in the cerebrospinal fluid, while urine analysis showed large amounts of albumin to be present. It was later found that the animals were licking the walls of the enclosure and the disease was attributed to the ingestion of saltpetre which was shown to be present on the surface of the walls. When the walls were cleaned and cemented over no further cases occurred.

B. W.

ASSOCIATION OF BRITISH PHARMACEUTICAL INDUSTRY

The Wholesale Drug Trade Association (W.D.T.A.) has been renamed the Association of British Pharmaceutical Industry (A.B.P.I.). Not only has the organisation changed its name, but it has recently revised its constitution. The narrower aim of a trade protection society, by a process of development, characteristic of British institutions, has been extended to include objects which realistically recognise the interdependence of industry and the public good. Under its new name and with its revised constitution, there is no reason why the Association should not provide a decisive influence in promoting the development of British pharmaceutical research—fundamental and applied. Moreover, although its members are themselves but little concerned in the public advertising of medicines, the Association is wise in considering the general good repute of the drug industry to be a legitimate field for the exercise of its influence and including among its objects the protection of the public against exploitation by misleading advertisements and other malpractices. Derived originally from the Drug Club and known as the W.D.T.A. for the relatively short space of 18 years, the virility of the Association is its outstanding characteristic, and for this quality it owes much to the energy and hard work contributed by its officers.—*Pharm. J.*

REVIEW

[**Pathology of Tumours.** By R. A. Willis. (1948.) pp. xxiii+992+ index 52 pp., 500 figs. London: Butterworth & Co., Ltd., £3 3s.]

Although this important book is largely concerned with human tumours, it will be read with pleasure and profit by all veterinary workers interested in neoplasms. Professor Willis has firmly based his book on his own observations, which included a study of a number of animal tumours, and a short account of these is given in Chapter V, and other references are made to them in the chapters on special kinds of tumours. The illustrations are mostly photomicrographs and are of a high standard; they are all from the author's own material, and most of them are published here for the first time. They were mostly selected to illustrate special and less familiar features of tumours rather than the well-known appearances of common neoplasms. In the numerous references to the literature given at the end of the chapters, a useful feature is that important papers are indicated in heavy type, and have their titles given, and often a brief comment indicates their special interest.

In Part I, comprising 12 chapters, the author deals with the definitions of "tumour" (his own is: "A tumour is an abnormal mass of tissue, the growth of which exceeds and is unco-ordinated with that of normal tissues, and persists in the same excessive manner after cessation of the stimuli which provoked the change"); the classification and nomenclature of neoplasms (clarity and simplicity are the chief aims); innocence and malignancy (the correct question to ask about a given tumour is not, "Is it benign or malignant?" but, "How benign or malignant is it?"); experimental production; statistical studies; tumours in animals; mode of origin (the important concept of a field of origin as opposed to a unicentric origin being stressed); structure, growth, spread, and metastasis; and hypotheses as to the nature of neoplasia. The author favours the view that "the normal cells of the body are variable structures, reacting in diverse ways to changes in their environment by changing their habits of growth and metabolism, tumour cells being but variants of normal cells produced in response to external carcinogenic agents. . . . Tumour formation is the final product of a cumulative response of cells to certain environmental stimuli."

In the 30 chapters of Part II, tumours are dealt with under the following headings: Tumours of epithelial tissues; of non-haemopoietic mesenchymal tissues; of haemopoietic tissues (the account of tumours of lymphoid tissue is particularly interesting); of neural tissues; and tumours of special types—melanoma, chordoma, embryonal tumours of viscera, teratomas (a particularly valuable chapter), and chorion-epithelioma.

Questions and Answers

The submission of questions for inclusion in this column will be welcomed: they can relate to any aspect of veterinary work. For purposes of record, each question is numbered, and those submitting questions are required to furnish (not for publication) name and address.

Answers to readers' queries represent exclusively the personal opinions of the writers, and criticism of the replies will be appreciated.

All communications should be addressed to the Editor.

Cystic Ovaries in the Mare

Q. CCXLVIII.—*With regard to cystic ovaries in mares, please give the fullest possible advice as to treatment and results to be expected by using luteinising hormone; also please describe technique, precautions, etc., and when to repeat puncture of cystic ovaries.*

A.—The objective to be attained in the treatment of cystic ovaries in the mare is the luteinisation of any cystic follicles present. It is known that the premature luteinisation of normal follicles may be achieved by artificial rupture, but where ovulatory failure has resulted in the production of cystic follicles the intravenous administration of 1,000 to 2,000 i.u. luteinising hormone either alone or combined with surgical puncture of the cysts is frequently more effective.

The technique of the surgical puncture of ovarian cysts in the mare is well described by Day (*Vet. Rec.* (1939.) **51**. 1118). Briefly, the operation is performed with the mare in the standing position, the operator being protected by trusses of straw interposed between him and the mare's hind legs. The mare's vulva and perinaeum having been washed, the operator's hand is scrubbed, lubricated and introduced into the vagina with the vaginal trochar (the point guarded) actually in the palm of the hand. When the anterior vagina is reached the point is extruded and the anterior wall of the vagina is punctured with a deliberate thrust on the same side of the cervix as the ovary to be treated. With the point of the trochar kept through the wall of the anterior vagina the other hand and arm, previously lubricated, are inserted in the rectum. The cystic ovary is located and is drawn back towards the trochar. The cyst is presented to the point of the trochar, is readily punctured and collapses. With the hands in the position necessitated by this operation it is extremely difficult to judge distances with the result that, unless the operator is very careful, the hand in the rectum can be pricked by the point of the trochar. It should be pointed out that the majority of mares are restless when the ovary is being pulled back.

When the use of luteinising hormone is combined with a surgical puncture it should not be necessary to repeat the operation.

Successful treatment will ensure the resumption of normal ovulatory activity. This can only be confirmed by daily palpation of the ovaries at the first post-treatment oestrus to determine the occurrence of normal ovulation.

Service may be permitted at this heat period and the administration of a second dose of luteinising hormone, 500 to 1,000 i.u., on the day of service may be employed to secure ovulation at the optimum time in relation to service.

. . . . .

A Uterine Catheter Difficulty

Q. CCXLIX.—*I am often asked to treat a cow or heifer for "turning." I have the long forceps and catheter, but in only half the cases do I succeed in getting the catheter into the uterus. This causes frustration and disappointment. Is there a knack in it? I have had gratifying success in the cases in which I have got it in, as required. Your advice would be greatly appreciated.*

A.—There is undoubtedly "knack" in the easy passage of the uterine catheter—once acquired, few cows or heifers will be met in which passage will prove impossible. Grasping the cervix lightly per rectum and guiding the point of the catheter through it facilitates passage—the tendency being to work the cervix over the catheter rather than to push the catheter through the cervical canal. Forceps can be dispensed with once the art has been acquired.

Practice on *post-mortem* specimens just as they are, and later grasping them through a piece of fairly stiff linen, is very helpful in promoting efficiency. The examination of *post-mortem* specimens of opened cervical canals will indicate the varying types of obstruction usually met with and the change of direction of catheter or movement of cervix necessary for successful passage.

. . . . .

Accidental Self-injection of Tuberculin

Q. CCL.—*What are the general symptoms, effects and treatment of an accidental self-injection of tuberculin?*

A.—The type of response to the injection of tuberculin in man varies slightly according to the preparation which is used, the route of injection and the dose administered. It is presumed that accidental self-injection will usually be intracutaneous although penetration of the skin may occasionally occur. "Old tuberculin," in addition to evoking a specific response to the allergic subject, may produce an immediate reaction of an urticarial type characterised by oedema and some inflammation; it will subside within 48 hours. The delayed, persistent inflammatory response, which is specific, is provoked by both "O.T." and "P.P.D." and reaches its maximum between the 48th and 72nd hour. There is usually a local vesiculation and there may be a slight systemic disturbance. Occasionally sloughing is a serious sequel to vesiculation and may leave an unsightly scar. Subcutaneous injection will certainly induce a rise in temperature in the allergic subject with slight malaise. Serious general reactions are very rare since the small amount of tuberculin which is introduced is unlikely to have any significant effect, but if it should arise medical advice should be sought. If there is any suspicion of an active pulmonary focus a check X-ray examination of the chest might be advisable one month and six months later.

. . . . .

Correspondence

Epidemic Diseases of Cats

Sir,—In the April 17th, 1948, issue of *The Veterinary Record*, under the heading of "Questions and Answers." I read with much interest your comments about epidemic diseases of cats.

By way of suggestions for treatment, aside from the usual hygienic and dietetic considerations, you recommended sulphamethazine for feline distemper, but not for infectious enteritis or panleucopenia because of the possibility of increasing or aggravating agranulocytosis.

As no mention was made of killed tissue virus vaccine or anti-feline distemper serum, I wonder if British veterinarians are familiar with these products. Several American veterinary biological manufacturers are marketing specific virus antigens and homologous serum

and, while not infallible, the results following their use are usually excellent judging by my own experience and that of veterinarians engaged in small-animal practice in this country.

The tissue virus vaccines are prepared from the liver, spleen and lymph tissues of cats infected with a highly antigenic strain of feline distemper virus similar to the preparation of vaccines for the immunisation of dogs against canine distemper. These vaccines are principally intended for the active immunisation of cats, particularly in catteries where infection is likely to do a great deal of damage in a relatively short period of time.

Homologous serum is prepared by the hyperimmunisation of cats with an active strain of virus and the blood is drawn when the titre has reached a satisfactory high level. Serum is generally employed for protecting cats or kittens that have been or are likely to be exposed to infection, the purpose being to provide short-term immunisation in animals in which there is not sufficient time to produce slower active immunity by the use of vaccines. Serum is also quite helpful in clinical cases of feline distemper-providing the disease has not progressed too far or too much tissue damage has not already taken place.

As both feline distemper and infectious enteritis (panleucopenia) are recognised as virus diseases and as sulphonamides are with few exceptions of little, if any, value for the therapeutic treatment of diseases of virus origin, we here in America feel that homologous distemper sera, particularly in conjunction with penicillin and symptomatic medication, diet and hygiene, produce in feline distemper the most satisfactory results.

So far as infectious enteritis is concerned, the use of vaccines or serum is not too satisfactory. Adequate amounts of penicillin and the use of sulphonamides of the insoluble type (to help in protecting against secondary infection of the gastro-intestinal tract) seem the more efficacious method of treatment. However, infectious enteritis develops so suddenly and the course is so rapid and severe that heroic treatment is not always satisfactory.

Perhaps I may be overstepping myself by offering the above information because my British colleagues may be just as familiar with the use of the vaccines and sera as we are. If so, my suggestions are superfluous, although the intention is good. In any case, it would be interesting to have opinions expressed by your readers and to exchange experiences on both sides of the Atlantic.

Yours faithfully,

180, Summit Avenue, G. W. Rawson, D.V.M.
Summit, New Jersey.
May 3rd, 1948.

* * * * *

Castration of Colts

Sir,—About the year 1905 I had a muzzle made by a country saddler, when castrating colts, for administering chloroform in the standing position—it is still usable. After I had used the muzzle for some time, I had one made by the same saddler for the late David Imrie, whom I knew intimately (being his first student helper), and gave him the necessary information for its use. Up to that period Imrie castrated colts in the standing position with clams, but discarded this method in favour of the chloroform standing operation. Imrie informed me that singlehanded he chloroformed and castrated a colt in a loose box; he used an ecraseur.

About 1921, at the Congress held at the Edinburgh Veterinary College, Imrie gave a demonstration of chloroforming an animal standing, the details of which were published in *The Veterinary Record*. He had some attachment to the muzzle with which I supplied him which controlled the flow of the chloroform—I consider this was unnecessary. I use the clams and hot iron when castrating and designed an end to a soldering iron (Swedish) which would keep hot in a gale of wind and burn for an hour at the cost of one penny for petrol; it is a simple and efficacious method and no ligatures are necessary to control the colt. I had a strong neck leather made, with rope attached, which is easily applied and adjusted, and when the colt is on its left side use the rope doubled round the heel of the right leg, pulling the leg forward to the neck. Sidelines and hobbles are not necessary for ordinary castration when a colt is under chloroform.

Yours faithfully,

The Anchorage, A. Hart.
Ardnadam, Dunoon,
Argyll.
June 14th, 1948.

* * * * *

Erratum.—"Loin Fall" after Milk Fever. Mr. J. R. Barker, of Hereford, writes to point out that the recommendations attributed to him in the answer to the above quesion (*Vet. Rec.* **60**. 319) should read as follows and not as quoted:—

Intravenous Injection:
Acid Sodium Phosphate ʒi, with ʒxvi borogluconate solution.
Per os:
Loading dose: ʒiii Acid Sodium Phosphate.
Boosting dose: ʒss ditto, three times a day.

Quarterly Meeting of Council, N.V.M.A.

Summary of Proceedings

Some thirty members of Council attended the quarterly meeting held at the Royal (Dick) Veterinary College, Edinburgh, on Friday, July 2nd, 1948. The two items of outstanding importance which were discussed comprised the Veterinary Surgeons Bill and the question of Animal Health Division salaries.

The Veterinary Surgeons Bill

The present position of the Bill having been explained, Mr. Steele-Bodger stated that it was not true—as alleged by the Minister during the Committee stage—that the Royal College had known all along that it was only by a casting vote that the Chancellor Committee had approved the title of Registered Animal Practitioner. Moreover, the Minister had not mentioned the fact that these existing practitioners permitted by the 1920 Act to call themselves "veterinary surgeons" had all been in agricultural practice for a minimum of 44 years. Council agreed that the officers be authorised to contact the Royal College and prepare a statement for use in replying to the Minister if deemed desirable.

Status and Salaries of the Veterinary Staff of the Ministry of Agriculture

The President outlined the action which had been taken since the last Council meeting in an endeavour to reopen negotiations on the salary question. A full statement on this action will be published at an early date in *The Veterinary Record*, but meanwhile we may say that Council passed the following resolution:—

> "That this Council, having considered all the facts appertaining to the dispute with the Ministry of Agriculture on the status and salaries of its veterinary officers, is reluctantly compelled to accept the fact that no further action can usefully be taken in this matter at the present time in view of the implications of the White Paper on Personal Incomes and the reply given by the Minister to the question put by Lt.-Col. Boles in the House of Commons on June 21st, 1948. The Council reaffirms its deep dissatisfaction with existing scales and its determination to see the State Veterinary Service given the status and salary which the interests of agriculture and the profession demand. The Council recommend, however, that in view of these facts and the danger to the livestock industry which has arisen due to the depletion of man-power within the Animal Health Division, no action be taken which would impede recruitment to that Division."

A vote of thanks and appreciation of the President's handling of the negotiations with the Ministry was passed unanimously.

Scheme for Control of Certain Diseases of Dairy Cattle

Council was informed of a meeting with the Diseases of Animals Committee of the National Farmers' Union on June 10th, as a result of which it was agreed that the Association should make a further effort to draw up new proposals. It was resolved that the Veterinary State Medicine Committee and the Technical Development Committee should hold a joint meeting in order to exchange ideas and appoint delegates to ascertain from the Ministry whether they have in view any policy for the control of the major diseases of livestock.

Penicillin

Various resolutions from Divisions had been received and Council passed a resolution:—

> "That this Council deprecates the practice of supplying clients with tubes of penicillin for their use in cases of mastitis where the condition has not been personally diagnosed by the veterinary surgeon concerned."

It was proposed to publish at a later date a note on this subject, after the Veterinary State Medicine Committee had approved the draft.

Artificial Insemination

The attention of the Council was drawn to the following resolution passed by the North Wales Division, supported by the Welsh Branch, and which had been sent to all other Divisions for support:—

> "The North Wales Division of the N.V.M.A. views with considerable alarm the mode of development of commercial

A.I. centres, feeling very strongly that the practice of effective veterinary supervision is impossible under existing circumstances. In consequence, it urges the N.V.M.A., without delay, to appoint a strong committee to investigate anew the whole matter of artificial insemination as practised commercially in this country."

A letter from the Hon. Secretary of the North Wales Division answering questions on several matters connected with the above resolution was also laid before the Committee, together with a communication from a representative of the Division elaborating the various points made. A Sub-committee was appointed to go into the whole question of artificial insemination as practised commercially in this country.

Conference on Grassland Management.—It was decided to hold this conference in London on October 28th and 29th, 1948.

Co-operation with the Pharmaceutical Society of Great Britain.—Council considered a report on the first formal meeting between representatives of the R.C.V.S., the N.V.M.A. and the Pharmaceutical Society of Great Britain held at 17, Bloomsbury Square, W.C.1, on April 21st, 1948. This report showed that the following matters had been discussed: (*a*) proposed compilation of a veterinary codex; (*b*) restrictions on supply of veterinary medicines through chemists; (iii) Veterinary Surgeons Bill; and (iv) standardisation of biological products.

Control of Production and Standardisation of Biological Products.—Council was informed that the sub-committee on this matter had agreed to the Association joining with the Universities Federation for Animal Welfare in asking the Minister of Agriculture to receive a deputation, and that this proposed deputation would now include representatives of the Pharmaceutical Society of Great Britain; that a memorandum had been prepared for this purpose, and that it had been agreed to follow up a suggestion that the deputation should be arranged as one from the Parliamentary and Scientific Committee.

Conditions of Employment of New Graduates in General Practice.—Council approved a memorandum on this subject, making certain recommendations.

Award of the Dalrymple-Champneys Cup and Medal

Council had much pleasure in awarding, on the recommendation of a Selection Committee, the Dalrymple-Champneys Cup and Medal for 1948 to Mr. F. Blakemore, M.R.C.V.S., D.V.S.M. (VICT.), of Cambridge.

Officers of the Association for 1948-49

After the President had paid tribute to their services, Council resolved, with unanimity and enthusiasm, to recommend the following for election at the Annual General Meeting: as *President*—Dr. R. F. Montgomerie; *Junior Vice-President and President-elect*—Mr. J. W. Bruford; and for re-election as *Hon. Treasurer*—Mr. H. E. Bywater; *Hon. Secretary*—Mr. G. N. Gould.

The office of *Senior Vice-President* will, of course, be filled by Mr. Anderson, as retiring President.

A cordial vote of thanks was passed to Professor Mitchell, Principal of the Royal (Dick) College, for the excellent facilities afforded the N.V.M.A.

A.I. PROVISION OF BULL TYPES TO INCREASE HERD AVERAGES

In a recent address at Bromsgrove, Dr. J. Hammond, of Cambridge University said (reports the *Farmers' Weekly*) that the main difficulty in improving dairy herds by the standard method of milk recording and drastic culling was the great shortage of females suitable for foundation stock or herd replacements. The vast majority of farmers would have to grade-up from existing stock whether good, bad or indifferent and few dairy farmers could afford to purchase and maintain the type of bull that would increase their herd averages by several hundred gallons over a comparatively short space of time. The obvious solution was by using bulls through the A.I. services. Referring to the position with beef cattle, Dr. Hammond said he believed that the shortage of stores would continue for some considerable time and here again artificial insemination could play a vital part. In dairy herds where it was not possible to rear all replacements and where certain females were not up to good class dairy standard, these could be mated to colour-marking beef bulls. He did not believe that the free beef service would be misused to any significant extent.

IN PARLIAMENT

The Veterinary Surgeons Bill Through the Commons

Title "Veterinary Practitioner" to Stand

In the House of Commons on Friday of last week the Veterinary Surgeons Bill was considered as amended in the Standing Committee, read the third time, and passed.

On the Report Stage,

Mr. Speaker: Sir Ian Fraser.

Lieut.-Colonel Sir Thomas Moore (Ayr Burghs): On a point of Order, Mr. Speaker. As you have called the Amendment in the name of my hon. Friend the Member for Lonsdale (Sir I. Fraser), does that mean you have not selected the new Clause—[*Docking of tails*]—which stands in the name of myself and five other hon. Members?

Mr. Speaker: No, it has not been selected.

Sir T. Moore rose——

Mr. Speaker: My selection cannot be argued. I have not selected the new Clause, and that is the end of the matter.

Sir T. Moore: I was not intending to dispute your Ruling, Sir. I was only going to ask whether it would be possible for the Minister to make a statement about an agreed Bill at a later date?

Mr. Speaker: That is outside this Bill. We can only deal with what is in the Bill, and docking of tails is not in the Bill. Might I also say that I have not selected the next Amendment, in the name of the hon. Member for Cardigan (Mr. Bowen), in page 10, line 3, after "London" to insert "and Wales," as that was discussed in Committee and negatived.

The Bill was reported, without Amendment.

Third Reading

The Joint Parliamentary Secretary to the Ministry of Agriculture (Mr. George Brown) moving the Third Reading, said that it was a matter of great satisfaction to his right hon. Friend, who was, unfortunately, unable to be there, that the two principles which formed the main substance of the Bill—the extension of facilities for veterinary education and the control of unqualified practice—had met with the approval of all sides of the House. He was sure that those Members who had taken part in the discussions on the Measure would agree that it would make a considerable contribution to the improvement in our animal health, which was so urgent and essential.

He should like to deal with two matters which cropped up during the Committee stage, and into which his right hon. Friend promised to look again. One was that of aliens, which was raised by Members on both sides of the Committee. The position was that Section 13 of the Veterinary Surgeons Act, 1881, permitted of the registration in the Register of Veterinary Surgeons of holders of any recognised veterinary diploma granted in a British possession or in a foreign country. He need not go into details, but the essence of the matter was that the Royal College already had power to register practitioners holding recognised foreign diplomas in suitable cases, so that no new powers in that respect appeared to be required.

The second question was whether it would be possible for an unqualified man now to be registered to enter into a partnership with a veterinary surgeon? The particular case that was evidently most in mind was that of a father who was himself unqualified, but who wanted to take into partnership his qualified son. They were asked whether it would not be unfair if they were not permitted to enter into partnership together. He understood that it would not be regarded as proper for a registered veterinary surgeon to enter into partnership with an unregistered person. Indeed, by a by-law of the Royal College, a veterinary surgeon was precluded from assisting an unregistered person by his presence, countenance, advice, assistance or co-operation in attending an animal in respect of matters requiring professional discretion and skill. This ban, however, did not apply to existing practitioners registered under the Act of 1881. Partnerships between persons registered in the Veterinary Surgeons' Register and in the Register of Existing Practitioners were allowed. He would point out that persons registered in the Supplementary Register would, similarly, have a status in the profession, and would be subject to the same rules of discipline and professional conduct as registered veterinary surgeons.

He expected the House would agree with him that the question of what should constitute professional conduct in matters such as that was best left to the governing body of the profession to decide; but the precedent he had mentioned suggested that the decision in this particular case was likely to be the sensible and

practical one, and he thought they could safely leave it there.

He did not think he need do more than add an expression of gratitude on behalf of his right hon. Friend and himself to right hon. and hon. Members on both sides of the House, and to others outside, who had given them great assistance and encouragement, for their help in getting that Bill through the House, and so enabling them to add one more to the growing number of agricultural Measures which stood to the credit of that Government and to his right hon. Friend since they came into power.

Lt.-Col. Sir Thomas Moore congratulated the Parliamentary Secretary and, through him, his right hon. Friend, on what he believed to be a good Bill. It had certain omissions which they all deeply regretted and to which he could not now, unfortunately, refer, but no doubt he could have a word with the Parliamentary Secretary afterwards to see whether anything could be done about the very powerful demand that had come from all parts of the House.

That Bill depended on one thing for its success, and that was the profession itself. In his opinion, those who led it would have to exercise wisdom, tolerance and a certain amount of judgment. It would give the profession a great status which was well merited and which would carry with it, at the same time, obligations and opportunities. It would depend on whether the leaders of the profession and the practitioners themselves lived up to the great opportunity that was now presenting itself. Many new and so-called unqualified men were being admitted to the Register but, on the other hand, they had to subscribe to certain standards of skill, conduct and character. He imagined that their closer integration and co-operation with the older and qualified members of the profession would quickly bring them up to the high standard of ability and capacity that was now prevalent throughout the profession.

One or two points which arose in Committee created, he thought, unnecessary heat, and certainly an unnecessary amount of correspondence with Members of Parliament. One was about the name which should be given to new entrants and their general status. They all recognised, and he thought the profession would recognise now, that this was a purely passing phase, that these new entrants would inevitably become permanent practitioners within the profession, and that in due course all members of the profession would subscribe to the qualifications laid down by the Council of the Royal College of Veterinary Surgeons. He was glad that there were these safeguards both for the profession itself and also for the would-be entrants. The profession, for the first time, had constitutional powers of discipline. Those who were guilty of unbecoming conduct could be expelled, but happily there was a safeguard giving the defendant the right of appeal. That went a long way beyond the Acts of Parliament giving similar powers to doctors and dentists, because neither of those Acts of Parliament gave the same rights and powers as the veterinary profession had in this case. He could only hope that it would exercise those powers wisely and in its own best interests.

When the Minister replied, he hoped he would make some reference to the point that was raised in Committee but which was ruled out of Order to-day by Mr. Speaker. It would be a great comfort to many in this House and outside who felt very strongly on this subject. They now left the Bill in the hands of those who would have to administer it. He believed it was in the best interests of those who practised in the profession and who had so deservedly earned a debt of gratitude for their services both in war and in peace. He wished them good luck and Godspeed in the future.

"A Welsh Grievance"

Mr. Bowen (Cardigan): He was afraid that all the matters on which he felt particularly strongly in this Bill had now been ruled out of Order. He respected the Speaker's ruling, but naturally it was a matter of very great regret to him and to his Welsh colleagues that they would have no further opportunity of ventilating what they believed to be a very genuine grievance in this matter. He would like to say—and he hoped that in saying it he would be in Order—that while the provisions of the Bill and the intentions behind them were highly desirable, it should be remembered that they were very limited and of a narrow character.

He hoped that in the months and years to come, the Minister, when considering the implementation of that Bill, would bear in mind that the real intention was to provide this country with a wider and more general service in the field of veterinary science. If that was to be produced, the powers and scope of the Bill would have to be widened, and there would have to be far greater facilities for training in all spheres. In the sphere in which he and his Welsh colleagues were particularly interested, it would be necessary for the Minister to give full consideration to the arguments that had been put forward. He hoped the Minister would look upon the representations which would be made to him in that regard with the greatest possible sympathy.

Sir Henry Morris-Jones (Denbigh): So far as the Principality of Wales was concerned, there was a considerable body of men who came under the unqualified class. They were first-class men with a wonderful intuition and knowledge of the animal kingdom in all its branches. Some of them were so able and practical that many farmers preferred to seek their advice in preference to that of a fully qualified veterinary surgeon. Under the law, of course, they were bound to seek advice from those who were professionally qualified, and he would not for one moment say that that was not always the right course to take, because unqualified knowledge could sometimes be dangerous. It was only fair to say that, so far as Wales was concerned, the work done by this class of unqualified veterinary practitioner over many years had been excellent and had contributed very materially to the welfare of animals in the Principality.

Like his hon. Friend the Member for Cardigan (Mr. Bowen), under Mr. Speaker's ruling he was, of course, debarred from ventilating a matter which they had hoped to ventilate if he, in his judgment, had called the Amendment in the names of some hon. Members representing Welsh constituencies. However, he hoped he would be allowed to say that the Bill would not be complete in regard to the setting up of university courses in the United Kingdom until Wales had charge of its own science and scientific experiments and was permitted to develop veterinary science within the Principality itself. He trusted that the Minister would again review the matter.

Sir Ian Fraser (Lonsdale): In the Committee stage of the Measure, the question was raised as to whether it was right that persons like therapists, masseurs, and bonesetters should be permitted to practise on animals. The Minister gave them an assurance that he would see whether, under Clause 5, it would be possible to make an order to license such persons to practice. He wanted to ask whether enquiries in that respect had been fruitful or not.

Whatever was the answer to that question, he wanted to register a protest against the limitations placed upon the practice of those people. They had this extraordinary anomaly, that whereas he could call in a physiotherapist, a massuer or bonesetter—even Sir Herbert Barker himself—to treat his daughter's ankle, he could not call in any of those gentlemen to treat his racehorse's fetlock. It seemed rather absurd to place this limitation on skilled persons, and he could not see the reason for the difference between the limitation placed where animals were concerned and that placed where human beings were concerned. Would the Minister tell him whether those persons could practise under licence or whether there was any possibility, even now, of altering the Measure to prevent that anomaly from occurring?

The Veterinary Man-Power Target

Major Sir Thomas Dugdale (Richmond): Like other hon. Members on that side of the House, he agreed with the principles contained in the Bill, and should like to say that they wished it well in its operation when it became law. There were, however, one or two points to which he drew the attention of the Parliamentary Secretary. The first was on the general principle that the trouble in which they found themselves to-day was due to the serious shortage of veterinary surgeons. He hoped the Ministry would go very carefully in regard to the proposed target. They had a discussion on this point in Committee, and they understood from the Government that the target likely to be achieved was 220 students per year coming from the veterinary colleges throughout the country. Was that sufficient? They would probably be in agreement that it was not sufficient, and, while welcoming that Bill, he urged the Government to give the most careful consideration to this point and to do their utmost to get a higher target at the earliest possible date.

So far as Wales was concerned, there was nothing in the Bill to exclude Wales from receiving the full benefits of the Bill, but he would like to draw the Government's attention to the fact that the Principality was really very advanced in this field of veterinary science, and that it had a number of herds which had been cleared of bovine tuberculosis. As the hon. Member for Denbigh said, there were in addition to the qualified veterinary surgeons, a large number of good men who had given great service to agriculture, and he thought that the more they could be encouraged—and the more young students could be encouraged to join the veterinary profession, the better it would be for the national interest.

They had a considerable discussion on the treatment which could be given to animals, and they admitted, in Committee, that it would probably be a limited number of animals which would be treated by physiotherapy. He thought they were satisfied by

the Minister, in Committee, that, under Clause 5 (2, *b*), the Minister could make an order whereby that treatment could be given, as well as electrical treatment for animals, particularly horses. The Parliamentary Secretary did not refer to that in his remarks, and they would like from him the assurance which he gave the Committee that it would be possible for these people to treat animals, as they had done heretofore. They appreciated, during an earlier stage of the Bill, that the Minister said that these people would be able to practise, provided that a veterinary surgeon recommended that such treatment should be given to the animals.

He agreed with his hon. and gallant Friend the Member for Ayr Burghs (Sir T. Moore), who said that he thought a very great deal of heat had been generated as to the possible name of the new entrants to the Supplementary Register. That was a point upon which they on that side of the House did not and could not see eye to eye with the Government, but, the point having been debated both in another place and there during Second Reading and on the Committee Stage, he did not see that any useful purpose would be served by going into the arguments again.

The Bill was now passing from that House and would soon be on the Statute Book. He would only add the hope that the profession would give its wholehearted support to the Measure because, at the end of the day, its success would depend upon the drive which was put into it by the members of the profession throughout the length and breath of the country.

Government Reply

Mr. G. Brown: On the question of the shortage of veterinary surgeons, it was true that the Government were concerned—and, by this Bill, had demonstrated their concern—that they should, in fact, increase as rapidly as was convenient and wise—and he emphasised that—the number of qualified people in the veterinary profession, who were so important for improving the health of our herds, and, because of that, the health of the people. There was a long-term view to be taken here as well as the short-term view. He repeated that nothing would be more foolish, or could do more harm to the interests of veterinary science, than to make such provision at this stage as to encourage a lot of young men to go through this expensive and long training if they could not, in fact, be sure of a position when they had completed it.

Therefore, while one did not want to err on the side of overcaution, one had to remember that people had to go on working for some time ahead, and what they had done was to take the advice of the Loveday Committee, which gave the fullest attention to this matter and took into account all the important considerations, including the availability of teaching staff, the availability of buildings and the opportunities available to people as they came forward. What they had done was to provide for a number of teaching centres and to aim to raise our technique of veterinary science so as to produce 220 new entrants a year, which they thought was about right.

He would, however, repeat with such emphasis as he could command what the hon. Baronet said—that there was nothing in that Bill to limit the output to 220 a year. It was only that they felt that was where they should begin. Clause 1 was as wide as could be and gave the Privy Council power to authorise any university to do the job if it could show that it could do the job properly. Therefore, the Principality—he hoped there would be no anxiety or upset among their friends in the Principality because there was no reason for it—or any other university was authorised to give courses as soon as it was clear that they had all the facilities and that it would be wise to raise the sights a little higher than the figure they now had.

Mr. Bowen: How did the hon. Gentleman reconcile his last statement in saying that that was what the Loveday Committee had reported with what the Loveday Committee reported in 1938—that other universities had been discouraged from undertaking veterinary instruction because of an official statement that aid from public funds would not be forthcoming and by a provision in the Charter reconstituting the Council of the R.C.V.S. that no other university should be represented on the Council?

Mr. Brown: They were getting rather confused. What he said was that, taking the figure of 220 at the beginning, they had taken the advice of the Committee and were following their views on that. The hon. Gentleman had galloped on to say that the Committee also said other things should be done which they had not done. He (Mr. Brown) was not necessarily saying that they took all the advice about everything which the Loveday Committee gave them. He said that in fixing the figure of 220, that far they were taking their advice. He had sat under Dr. Loveday on a similar committee, and he knew full well how much care and attention he gave to getting the right kind of answer to a thing of that kind.

The Principality could be quite happy. No door was shut to it. He said that with all the emphasis he could, hoping that it would be some comfort to his hon. Friends. He ought to say that he gladly paid his tribute to the work which had been done in the Principality about the clearance of tuberculosis from herds. As a member of the minority race from England, he hoped it would not be long before they caught up with the very great lead given to them by their friends in the Principality.

The Question of Partnerships

On the question of partnerships, the hon. and gallant Member for Richmond (Sir T. Dugdale) read what he said a bit wider than he tried to make it. He said that seemed to them to be a matter of professional etiquette and a professional code of conduct, and that they ought really to leave it to the professional body to deal with and that it was not for them to prejudge the issue or lay down there what should be done about a professional code. On the other hand, once before they had to deal with the same situation, and they took the view that partnerships could be entered into between the two classes existing at that date, the then registered existing practitioners and the qualified men, and he said that he felt quite sure that what was then the only practical and sensible step would again be taken. However, they must leave it to them to do.

The hon. Member for Lonsdale (Sir I. Fraser) raised the point about physiotherapists. The assurance of his right hon. Friend was not quite the assurance to which he referred that day. They did not say that they would look into the Bill to see whether it was possible to make an order. In fact, it was possible to make an order. What his right hon. Friend or he himself said was that between now and the point at which an order would have to be made—namely, in a year's time; the point could not arise for the first year—they would give the most careful and sympathetic consideration to the actual making of an order. It was possible to do it, and it was their intention very sympathetically and fully to consider what sort of an order they could make, and to consider making such an order before the time when the need arose. The only ban they had in mind was a ban on diagnosis, and not a ban on treatment. They were very sympathetic to the idea that these people should be permitted to treat the animals, but they felt that the diagnosis should be carried out by a qualified veterinary surgeon. . . .

Titles: "The Last Word"

He would wind up with a last word about titles. They had discussed that subject at some length during the passage of the Bill. He agreed with the hon. and gallant Member for Richmond and the hon. and gallant Member for Ayr Burghs that it was now a matter for the profession to forget whatever arose during the discussions. For good or ill, they had embarked on a course which everybody agreed would ultimately be in the interests of the profession. How much it would be depended on them and the outside world. How quickly all that had gone before was forgotten depended on them. They were sure that they would have the fullest co-operation from the profession.

. . . . . .

The Committee Stage

(*Continued from page* 331)

Minister's Withdrawal of Charge Against the Royal College

At the outset of the second day's proceedings, the Minister of Agriculture (Mr. Tom Williams) said: With the permission of the Committee, I should like to correct a statement which I made in the latter part of the proceedings in the Committee on June 24th. I said that the Royal College of Veterinary Surgeons as a body knew from the very outset the circumstances of the Chancellor Committee's decision on the title of persons on the Supplementary Register. While I have every reason, in view of the many discussions that have taken place since the Chancellor Report was issued, to believe that this information was known in the Royal College before their memorandum to hon. Members of Parliament on this matter was sent out, I wish to withdraw my assertion that the information was known to the Council as a body.

I do not think that anything I said in any way misled the Committee. I have only been anxious throughout to do my best to make sure that the Committee and the profession are aware of the facts and arguments free from misrepresentation. It

is in this spirit that I have thought it right to seek permission to make this statement this morning. I am sure that the Council and the profession as a whole are anxious to devote their attention to making the new era inaugurated by this Bill as successful as possible.

Capt. CROOKSHANK, while accepting the Minister's statement, asked that either he should furnish the relevant document or withdraw his statement in an unqualified manner.

Mr. YORK said that the Committee itself had its judgment to some extent impaired by the attack which the Minister launched upon the Royal College impugning their good faith.

Major Sir THOMAS DUGDALE said it was a very dangerous practice to make statements in Committee upon a confidential document of which the Members of the Committee had no knowledge. How could any Member of Parliament, by studying this document (Chancellor Report), say that the findings were not a unanimously agreed recommendation ?

Sir JOHN BARLOW stated that the two veterinary surgeons serving on the Chancellor Committee would have had no business to report to the Royal College exactly what happened in the Committee. For this reason he suggested that the good name of the Royal College had been unduly criticised.

Mr. WILLIAMS asserted that an attempt was being made to make out a solid case on a very empty foundation. It was not true that this was a confidence for the first time let loose. He need say no more than that.

An amendment to include the University of Wales within the scope of the Bill, and another to restrict the practice of docking, were not accepted.

ROYAL COLLEGE OF VETERINARY SURGEONS

Membership Examinations, July, 1948

LIST OF SUCCESSFUL CANDIDATES

London

FIRST EXAMINATION:

Both Subjects

Ayliffe, J. H. (C)
Barley, A. P. (C)
Barnsley, D. G. C.
Bennett, P. H. G.
*Bouvet, R.
Choudary, M. U. A.
Clark, J. H. (C)
Clarke-Williams, P. R. (C)
Cochrane-Dyet, I. G. C.
Dent, H. H.
Dickens, P. S. E. M.
Epps, H. B. G.
Ford, G. K.
Forshaw, P. H.
*French, P. J.
Garry, P.
Govaerts, L. V. (C)
*Haggis, I. H.
Harrop, J. K.
*Hay, I. F. S.
*How, W. T.
James, T. M. (C)
*Jones, W. G.
Keymer, I. F. (B)
Monks, R. W. M.
*Napier, Miss E. W.
Needham, N. S. (C)
Norman, J. A. (C)
Orfeur, N. B. (C) (B)
*Payne, J. M.
*Redmond, M. R.
Rees, R. B.
Robinson, J. S. (C)
Sherwood, J. E. T. (B)
*Skinner, D. J.
Thuraisingham, S. (C)
*Walter, W. H.
*Wheeler, J. M.
Whitaker, G. L.
*Wiltshire, L. V.

One Subject

Brunsdon, J. R. (C)
Garland, Miss M. (C)
Goodsell, P. R. (B)
Humphreys, M. J.
Kirkwood, A. D. J.
Jack, J. A. G. (C)
Lloyd, E. R. O.
Moore, D. W. W. (C)
Perryman, Miss P. J. (C)
Shipley, W. (B)
Stephens, J. M.
Swift, G. A. (C)
Tucker, Miss J. W. (C)
Wilkinson, J. S. (C)

* Denotes Second Class Honours.
(C) Denotes Credit in Chemistry.
(B) Denotes Credit in Biology.

SECOND EXAMINATION:

Both Subjects

Aitken, Miss E. A.
Bailes, Miss J. A.
*Bevan, T. G.
*Bowley, M. I.
Boyde, C.
Boys-Stones, P. A. (P)
Brain, J. R. (P)
Brockis, D. C. (P)
*Colegrave, A. J.
Cook, T. F. (P)
Cooper, B. S.
Creyke, G. H.
Cripps, J. H. H. (P)
Crooks, J. L.
Davies, A. J. (A)
Davies, D. R. (A)
Dring, J. C. (P)
Edwards, Miss B.
Evans, H. T. J.
*Faull, W. B.
*Felgate, C. A. G.
Fishwick, R. (P)
*Fowler, N. G.
*Franks, P. W.
Gilmore, J. D. (P)
Hawksley, M. B.
*Hoe, Miss C. M.
Holcombe, R. B. (P)
Holton, J. A. (P)
*Howell, D. G.
Hutchings, D. A.
*Jenner, F. H.
Johnson, Miss P. L.
Jones, B. V.
Jull, D. J. (A)
Kennea, T. L. (P)
Lawson, M. R. (P)
Mace, J. W. (P)
Peacock, R.
Peters, W. G. D. (P)
*Rees, W. H. G.
Rham, G. G. (P)
*Sainsbury, D. W. B.
*Shattock, G.
Stokes, S.
Taylor, J. H.
Thomas, H. J. D.
Thomson, J. McC.
Thoumine, R. H. (P)
*Tinslay, Miss P. E.
Wallace, H. G.
*Waters, P. J.
Wickenden, P. F. (P)

One Subject

Ball, Miss J. B.
Barker, G. L.
Blyth, A. M.
Catterall, P. W.
Davy, Miss J. D.
Downie, N. F.
Edwards, T. W.
Evans, A. D. G.
Evans, D. A.
Griffiths, A. V.
Jacques, P. A. (A)
McMillan, D. D.
Marston, J. R. T.
Minson, Miss J. M.
Neal, N. W.
Pittaway, E. M.
Prasad, Y.
Price, M. C.
Sparrow, W. B.
Stockwell, Miss J. I.
Stokes, Miss L. D.
Symons, C. B. (P)
Thurston, G.
Traynor, D. K.
White, Miss K. S.
Williams, W. D.

* Denotes Second Class Honours.
(P) Denotes Credit in Physiology.
(A) Denotes Credit in Anatomy, etc.

THIRD EXAMINATION (*Old Syllabus*):

Ahmed, S. A.
Glas, G. M.
Heynes, Michael
Howard, R. W.
Lakin, C. N. S.
Morgan, James
Oliver, A. C.
Rawlins, J. A.
Siller, W. G. (Edinburgh student)
Sladden, I. E. T.
Smith, E. H.
Spurry, J. R.
Stokoe, H. P.
Whitney, J. C.

FOURTH EXAMINATION:

Allen, P. V.
*Ayre-Smith, R. A.
Bainbridge, J. G.
Beale, R. K.
*Betts, A. O.
*Briault, M. O'M.
Bulbeck, Miss E. C.
Chittenden, Miss P. M.
Clark, M. A.
Clover, R. H.
Collings, D. F.
Collyns, D. J.
David, V.
Devonald, L. J. R.
Dick, D. C.
Drury, F. S.
Frank, C. J.
Goddard, A.
Harrison, V. A.
Hartley, D. C.
Holt, J. R.
Hopkin, A. E.
Howard, J. W. (Path)
Ibbetson, Miss J. A.
Montefiore, A. S. F.
Morris, R. E.
Muse, H.
Oldham, J. G.
Oura, P.
Owens, E. L.
Penhale, W. G. A.
Phillips, J. G. (Path)
Pretty, Miss Y. I.
Rees, J. V.
Rhodes, J.
Ryde, P. S. (Paras)
Skyrme, H. P.
*Smith, J. E.
Smithson, T. B. (Path)
Stockman, M. J. R.
Stockwell, Miss V.
Stubbins, A. G. J.
Tanner, S. C.
Teakle, J. A.
Tebbutt, N. F.
Toosey, M. B. (Path)
Turner, Miss P. J. (Path)
Vaughan, L. C.
*Walker, R. G.
Weaver, Miss B. M. Q.
Whittlestone, J. F.
*Whittlestone, Peter
Yeoman, G. H.

* Denotes Second Class Honours.
(Path) Denotes Credit in Pathology.
(Paras) Denotes Credit in Parasitology.

FINAL EXAMINATION:

*Allen, W. G.
Appleby, E. C.
Barber, Harry (M)
Biggers, Miss J. M.
Brown, D. H. W.
Brown, F. G. (M)
Chandler, R. L.
Coward, T. G. (M)

Curwen, Miss P.
Keel-Diffey, S. J.
Early, J. L.
Graves, J. A. (M)
Green, Miss M. K.
Hammond, J. A.
Harries, G. M.
Harwood, P. M. A.
Hicks, J. B.
Hill, R. B.
Hoffe, I. A.
Hollands, R. D. (M)
Ibbetson, Miss M. G.
Jenkins, D.
Jenkins, J. F. (M)
Jones, B. R.
Jones, T. D.
Lovegrove, Miss M. R.
MacMichael, Miss E. M. H.
Murray, D. S.
Nicol, John
Palmer, A. C.
Patra, M. K. (M)
Pingram, F. P.
•Pugh, P. D. S.
Reakes, D. G. W.
Rickards, D. A.
Rosenzweig, A.
Schwabacher, E. N.
Slater, L. F.
Sperber, Miss M. V.
Swarbrick, Olaf
Tarry, A. R.
Tobin, W.
Toovey, J. A.
Young, G. F. P.
Young, Stuart

• Denotes Second Class Honours.
(M) Denotes Credit in Medicine.

Dublin

First Examination:

Both Subjects

D'Arcy, T.
•Hart, Francis
Hurley, M. C.
McCarthy, Patrick
Mills, D. R.
Murphy, O. J. N.
O'Connell, D. F.

One Subject

Daly, D. G.
Dempsey, F. P.
Dowdall, F. J.
Gallagher, Eugene
Harney, J. A.
Lyons, T. M.
Moscow, J. R.
O'Donnell, Owen
Philpott, J. B.
Warren, Miss C. P.
Wright, M. L.

• Denotes Second Class Honours

Second Examination:

One Subject

Blake, J. W. F.
Carroll, J. A.
Davies, S. F. M. (P)
Dowling, V. A.
Fitzpatrick, E. P.
Forde, D. M.
Hanly, S.
Johnson, D. P. F.
Keating, J. P. (P)
Knightly, J. C.
Lyne, J. K.
Lyons, P. J.
McGarry, W. V.
Mchigan, Cormac
O'Driscoll, J. G. (P)
Purcell, Philip
Roche, L.
Roddy, R. M.

(P) Denotes Credit in Physiology.

Third Examination (*Revised Syllabus*):

One Subject

Bourke, P. J.
Clarke, R. R.
Cox, M. J. A.
Crowe, J. A.
Duignan, E. J.
Fagan, J. A. (H)
Harney, J.
Kealy, J. K. (H)
Kilmartin, V. J.
Lunny, Kevin
Maher, M. P.
McAlinden, J. H.
McBride, J. J. (H)
McDougald, W. L. (H)
O'Connor, J. P. (H)
O'Donnabhain, S. S. (H)
O'Reilly, J. P. (H)
O'Reilly, M. J.

(H) Denotes Credit in Hygiene.

Third Examination (*Old Syllabus*):

Horan, H.
Keenan, N. T.
Keenan, O. M.
Leavy, J. J.
O'Brien, M. G.
Reilly, R.
Reihill, J. P.
Slevin, J. G.

Fourth Examination:

Bennett, W. N.
Buckley, Thomas
Carroll, W. M.
Coghlan, F. X.
Collins, S. McC.
Connors, Nicholas
Devereaux, J. A. (Paras)
Devlin, O. K.
Dineen, C.
Fanning, J. J.
Gilchrist, G. M.
Kavanagh, Desmond
Knightly, M.
Layng, J. E.
McCarthy, Michael
McGettigan, J. F.
Mackle, T. A.
•Mahon, Francis
Murdock, C. A.
Murphy, E. C.
Murphy, Michael
Murphy, P. F.
Ni Mhaoileoin, Miss S.
O'Bryne, E.
Prendeville, D. B.
Rackard, N.
Rooney, A. M.
Ryan, G. M.
Stephens, H. A. P.
Stephenson, J. A.
Thornton, T. J.
Treacy, J. T. M.

• Denotes Second Class Honours.
(Paras) Denotes Credit in Parasitology.

Final Examination:

Burke, J. T.
Cox, J. R. M.
Farrell, J.
Feeney, G. H.
Fennelly, P. W.
•Loughlin, David
McCauley, P. J.
McIvor, J. G.
Murphy, John
O'Connor, Daniel
O'Rourke, J. J.
O'Sullivan, C. G.
Roe, P. F.
Stack, Robert
Stewart, D. J.
Sweeney, E. J.
Tubridy, M. S.
Warmington, J. C.
Woulfe, M. R.

• Denotes Second Class Honours.

Liverpool

Second Examination (*Revised Syllabus*):

One Subject

Cartmell, W. B.
Humphreys, Miss H. T.
Short, M.
Woolfenden, Miss Enid

Third Examination (*Old Syllabus*):

Cunningham, Brendan (A) (H)
Forrest, Eric (H)
Harbourne, J. F. (H)
King, J. J. (A) (H)
Maydew, E.
Owen, L. N. (P) (H)
Parry, R. T.
Pinsent, P. J. N. (H)
Roberts, Miss E. G.
Taylor, L. A. (A) (H)
Woodall, Harold (H)

(P) Denotes Credit in Pharmacology.
(A) Denotes Credit in Anatomy.
(H) Denotes Credit in Hygiene.

Fourth Examination:

Bacon, W.
Barlow, Miss Barbara
Cayless, Miss Barbara
Cole-Powney, J. H. M. (Paras)
Done, J. T. (Path)
Errington, A. E.
Fisher, Miss P. M.
Forster, Roy
Griffith, Edward
Hooper, Miss Geraldene
Keeble, S. A.
•Littlejohn, Miss A. I.
Macdonald, J. N.
McGrath, J. F.
Mason, Henry
•Morgan, W. J. B.
Perry, P. F.
Smith, Miss B. M.
Stevens, A. J. (Paras)
Thomas, E. A.

• Denotes Second Class Honours.
(Paras) Denotes Credit in Parasitology.
(Path) Denotes Credit in Pathology.

Final Examination:

•Allcock, J.
Field, A. C.
Gee, Miss B. G.
Greasley, John
Hague, D. C.
•Hargreaves, P. R.
Harrison, W. J.
Hill, K. J.
Hughes, E. J.
Morten, D. H.
Myerscough, S. F.
Scarnell, John (S)
Sinclair, K. B.
Walker, R. J. B.
Watkins, I. M.
Whittle, W. N.

• Denotes Second Class Honours.
(S) Denotes Credit in Surgery.

(*To be continued*)

"A.I. MYTHS EXPLODED"

"All the old myths about A.I. now seem to be finally exploded," writes "Blythe" in *The Farmer and Stock-Breeder*, and continues: "The widespread belief that it got a higher percentage of bull calves than did natural mating has been disproved by a mass of statistics. We are also coming to appreciate the freedom from danger of transmittable disease which A.I. gives. With premium bulls available at 15s. or less a service, most people are now glad to pay 25s. for an A.I. service which saves both labour and transport and is contagion free."

NOTES AND NEWS

Diary of Events

July 17th.—General Meeting of Association of State Veterinary Officers at Royal Veterinary College, Camden Town, N.W.1, 2.15 p.m. Council Meeting, 10.30 a.m.

July 22nd.—Meeting of the North of England Division, N.V.M.A., at Shincliffe (Artificial Insemination Centre), 2.30 p.m.

July 23rd.—Annual Meeting of the Sussex Division, N.V.M.A., at Brighton (Old Ship Hotel), 11.30 a.m.

July 23rd.—Second Ordinary General Meeting of A.V.T. and R.W. (Southern Region) at Royal Veterinary College, Camden Town, N.W.1, 2 p.m.

July 23rd and 24th.—Meeting of the Biochemical Society in the Biochemistry Department, the University, Glasgow, W.2, at 11.15 a.m. each day.

July 30th.—Meeting of the Royal Counties Division, N.V.M.A., at the A.R.C.'s Field Station, Compton. (*See Notice.*)

Sept. 8th to 15th (inclusive).—N.V.M.A. Congress at Southport.

Sept. 11th.—13th Annual Meeting and Dinner of the Royal (Dick) Veterinary College, Alumnus Association at Southport (Prince of Wales Hotel), 7.30 p.m.

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N.V.M.A. Congress Ticket Applications

Several weeks have elapsed since the issue to members N.V.M.A., through the medium of the *Record*, of the Ticket Sheet for applications for tickets for the functions, excursions, etc., in which they wish to participate. Will all who will be attending the Southport Congress and who have not yet responded, kindly see to this matter at once in order that office work and catering arrangements may be facilitated and possible disappointment avoided.

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It may be of interest to members to know that the Southport and Ormskirk Agricultural Show is to be held on Saturday, September 11th, in the Victoria Park, Southport. It will be noted that this is during Congress week.

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Production and Distribution of Foods of Animal Origin

B.M.A. Demand for Investigation into Supervision

At the Annual Representative Meeting of the British Medical Association recently held at Cambridge, the following resolution was carried without discussion:

"That this meeting is not satisfied with the present supervision of production or distribution of foods of animal origin and asks the Council of the Association to approach the National Veterinary Medical Association in order that a Joint Committee of the two bodies may investigate the matter and report to the proper authorities."

In moving the resolution Dr. Douglas S. Pracy said that as an example of the present unsatisfactory regulations he knew of a farm where the standard was so low that the milk produced was not allowed to be sold, but the farmer's wife turned it into cheese which obtained first prizes at the county show. Little or no use was made of the present knowledge of animal health or physiology. Veterinary surgeons were anxious to play their part in this health service and felt that they had been neglected in the past. Better relations would be established with the farmers and other producers if the supervision of production was shared by veterinary surgeons and medical men rather than with sanitary officers as at present.

Safe Milk

The meeting also passed the following resolution:

"That this meeting is dissatisfied with the present position in the production and distribution of milk and requests the Ministries of Food, Agriculture, and Health to consult with the Committee of the Association in order that safe milk of high quality should be provided for the community and that the matter be treated with the utmost urgency."

Mr. Lawrence Abel, who moved, reminded the meeting that three or four members went with Dr. Fenton to a working party of the Ministries of Food and Health some 18 months to two years ago, and last year the Representative Body was promised that a close watch would be kept on what happened. This had been done, but so far nothing had moved at all. He was informed that a new Bill would be presented to Parliament but that it was unsatisfactory. He had just come back from a country where all milk was pasteurised, where there were an enormous number of T.T. cows. On board ship they could not get milk, they could only get cream, and it was pasteurised cream at that. Throughout the length and breadth of North America one got unlimited supplies of sterilised or pasteurised milk in lavish quantities. In this country the record of tuberculous meningitis, of tuberculosis of bones and joints, was melancholy, and the crippledom still continued owing to the fact that nobody would be bothered to insist on the milk supply being safe and pure for the community. Why should the population be treated on a lower scale than that of other civilised countries of the world?

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PERSONAL

Sir Daniel Cabot

In our last issue we recorded the appointment of Mr. Thos. Dalling as Chief Veterinary Officer of the Ministry of Agriculture and Fisheries on the retirement of Sir Daniel Cabot after 37 years' service with the Ministry. Sir Daniel Cabot's services will be retained part-time in a temporary capacity in connection with certain international veterinary organisations.

A native of Jersey, where he received his early education, Sir Daniel qualified M.R.C.V.S. from the Royal Veterinary College, London, in 1910.

He joined the staff of the Ministry in 1911 and after a period of duty in the field was posted to London for duties at head office. While still a junior in the Service he accompanied the late Sir John M'Fadyean's mission to India to study foot-and-mouth disease. He has also taken an active part in the work of the Agricultural Research Council and been a member of most of the Government Committees dealing with veterinary matters and is a member of the Foot-and-Mouth Disease Research Committee.

As deputy chief officer he took a major part in the launching of the attested herds scheme in 1935. He became chief veterinary officer in 1938.

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Edwards Bey

In connection with the award to Dr. J. T. Edwards, by His Majesty King Farouk I of Egypt, of the Order of the Nile (Third Class), which carries with it the title "Bey" and which was announced in our last issue, a colleague sends us the following appreciation of some of the work carried out by Dr. Edwards in that country:

This is the first time such an honour has been bestowed on a British veterinarian and in honouring Dr. Edwards His Majesty has honoured the veterinary profession.

It is understood that, after very arduous and thorough study of a wide range of problems, many of them concerned with the special conditions in Egypt, and often not a little opposition from some whose ideas were at variance with proposals he made, a great deal of the organisation of the Cairo Veterinary College is likely to be remodelled, in order to provide for the training of graduates well versed in modern ideas and yet adapted to the requirements of the country.

As a result of these labours Egyptian veterinary post-graduate students are doing useful work and extending their studies in British laboratories. In time they will return to their own country to take up educational and research posts and train others. Yet another link is being forged in the bonds with Great Britain. This country has done a great deal for Egypt in the past and it is pleasing to note this particular veterinary contribution to the continuance of those bonds now that Egypt is independent. We all hope that in this and other ways Britain may be able to continue its help to Egypt and that the friendship between the two countries which have so many common interests may endure.

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Appointment.—Mr. C. A. McGaughey of the Institute of Animal Pathology, Cambridge, has been appointed to the Chair of Veterinary Science in the University of Ceylon and will be leaving Cambridge on August 4th.

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Birth.—Smith.—On July 7th, 1948, at The Barratt Maternity Home, Northampton, to Winifred (*née* Fox), wife of F. W. A. Smith, M.R.C.V.S., Oundle—a sister for Martin.

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Marriage.—Clarke—Bingham.—On July 10th, 1948, in Reading, Dr. E. G. C. Clarke to Myra L. Bingham, M.R.C.V.S.

The Royal Garden Party.—Among those who received the gracious invitation to attend the Royal Garden Party held at Buckingham Palace on Thursday last were Dr. W. R. Wooldridge, Scientific Director of the Animal Health Trust and Mrs. Wooldridge, and Mr. W. G. R. Oates, Secretary and Registrar of the Royal College of Veterinary Surgeons.

R.C.V.S. OBITUARY

Wood, Albert Edward, Wilmington House, Hailsham, Sussex. Graduated London, July 10th, 1925. Died July 3rd, 1948.

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ADDRESSES OF DISEASE-INFECTED PREMISES

The list given below indicates, first, the county in which are situated the premises on which disease has been confirmed, followed by the postal address and date of outbreak.

Swine Fever:

Dorset.—Pipsford Farm, Beaminster, Dorset (July 9th).

Sheep Scab:

Cumberland.—Keskadale, Newlands, Keswick, Cumberland (July 7th).

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Scheme for the Control of Diseases of Dairy Cattle

Statement showing the Number of Undertakings Notified to the Ministry of Agriculture during the Quarter Ended June 30th, 1948

County	Undertakings Notified		Total Undertakings		
	During Month	Previously	Number	Number of Cattle	
				Cows	Heifers
England					
Bedford	—	6	6	84	32
Berks	—	42	42	1,277	911
Bucks	—	7	7	184	222
Cambridge	—	—	—	—	—
Cheshire	4	119	123	4,210	1,839
Cornwall	—	—	—	—	—
Cumberland	—	—	—	—	—
Derby	10	168	178	4,817	2,706
Devon	3	91	94	1,361	973
Dorset	—	3	3	78	40
Durham	5	147	152	3,480	1,397
Essex	3	97	100	3,487	2,684
Gloucester	1	29	30	1,041	934
Hampshire	14	95	109	4,270	2,859
Hereford	—	3	3	149	98
Hertford	3	19	22	731	547
Hunts	—	—	—	—	—
Isle of Ely	—	—	—	—	—
Isle of Wight	—	—	—	—	—
Kent	8	47	55	1,369	964
Lancs	1	68	69	2,235	988
Leics.	4	58	62	1,534	1,341
Lincs. (Holland)	—	—	—	—	—
Lincs (Kesteven)	1	8	9	100	87
Lincs (Lindsey)	1	8	9	188	199
Middlesex	1	—	1	12	5
Norfolk	—	48	48	1,615	1,166
Northants	1	20	21	441	553
Northumberland	3	23	26	796	554
Notts	6	95	101	2,450	1,318
Oxford	—	—	—	—	—
Rutland	—	—	—	—	—
Salop	4	60	64	7,998	1,261
Soke of Peterborough	—	—	—	—	—
Somerset	5	93	98	2,299	1,369
Staffs	11	82	93	2,874	1,999
Suffolk (East)	—	18	18	372	288
Suffolk (West)	8	8	16	433	399
Surrey	1	38	39	1,047	600
Sussex (East)	2	52	54	1,530	1,021
Sussex (West)	5	30	35	957	798
Warwick	4	56	60	1,795	981
Westmorland	—	—	—	—	—
Wilts	1	32	33	1,168	758
Worcester	3	75	78	1,483	892
Yorks (E.R.)	1	37	38	654	536
Yorks (N.R.)	1	57	58	1,268	853
Yorks (W.R.)	4	94	98	2,282	1,072
Total, England	110	1,933	2,052	62,069	35,253
Wales					
Anglesey	—	—	—	—	—
Brecon	—	5	5	73	59
Caernarvon	2	23	25	490	208
Cardigan	3	21	24	577	335
Carmarthen	7	127	134	2,585	1,427
Denbigh	—	—	—	—	—
Flint	—	22	22	545	229
Glamorgan	1	28	29	540	269
Merioneth	—	—	—	—	—
Monmouth	—	—	—	—	—
Montgomery	—	—	—	—	—
Pembroke	—	8	8	199	225
Radnor	—	—	—	—	—
Total, Wales	13	234	247	4,969	2,725
Total, England and Wales	132	2,167	2,299	67,038	37,978

Notes.—(1) Operative periods of undertakings: 1 year, 532; 2 years, 126; 3 years, 1,586. (2) Undertakings renewed for further periods: 1 year, 38; 2 years, 3; 3 years, 11. (3) Undertakings not renewed at end of operative periods: 202. (4) The figures showing the number of undertakings notified during the month relate to entirely fresh undertakings and do not include undertakings renewed for further periods. Undertakings which have been cancelled or not renewed are not included in the figures for previous notifications.

Scotland	Undertakings Notified		Number of Cattle		
	During Quarter	Previously	Number	Cows	Heifers
Scotland					
Aberdeen	—	13	13	783	368
Angus	—	12	12	520	331
Argyll	—	—	—	—	—
Ayr	—	10	10	951	214
Banff	—	1	1	120	20
Berwick	—	1	1	22	7
Bute	—	—	—	—	—
Caithness	—	—	—	—	—
Clackmannan	—	1	1	29	15
Dumfries	—	9	9	430	337
Dunbarton	—	1	1	12	10
East Lothian	—	1	1	20	8
Fife	—	21	21	810	516
Inverness	—	1	1	52	35
Kincardine	—	2	2	62	66
Kinross	—	3	3	59	41
Kirkcudbright	—	6	6	741	712
Lanark	—	4	4	186	114
Midlothian	—	—	—	—	—
Moray	—	—	—	—	—
Nairn	—	—	—	—	—
Orkney	—	—	—	—	—
Peebles	—	—	—	—	—
Perth	—	7	7	138	121
Renfrew	—	3	3	139	98
Ross-shire	—	3	3	172	72
Roxburgh	—	—	—	—	—
Selkirk	—	—	—	—	—
Stirling	—	6	6	182	181
Sutherland	—	2	2	35	32
West Lothian	—	2	2	53	59
Wigtown	—	12	12	1,000	517
Zetland	—	—	—	—	—
Total	—	121	121	5,916	3,865

Notes.—(1) Duration of undertakings: 1 year, 33; 2 years, 3; 3 years, 85. (2) Undertakings renewed for a further period (included in the second column of the statement): 1 year, 153; 2 years, 9; 3 years, 80. (3) Undertakings expired and not renewed (not included in the second column of the statement): 284. (4) The figures in the first column of the statement relate to entirely fresh undertakings.

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THE ROYAL SHOW AT YORK

The stands of the Animal Health Trust, although situated in a byway of the Showground rather than in one of the more crowded thoroughfares, drew a considerable number of visitors. The lay-out, with its posters, excellent photographs, and illuminated viewing-boxes earned tributes from experienced exhibitors, and presented an attractive and colourful whole, lucid in its exposition of the Trust's aims and objects. There was much to see, however, which was of a general veterinary interest, and the display on three out of the four counters—together with a practical demonstration showing the preparation of fertilised hens' eggs for vaccine production, the agglutination test, parasitic egg-counts, and the chemical detection of poisons in stomach contents—exemplified the work of the profession as a whole, and stimulated enquiries, many of which had no direct bearing upon the Trust itself.

The Ministry of Agriculture's extensive marquees included an Animal Health Section, at which veterinary officers were present on duty. Posters drew attention to coccidiosis, and to anaemia in young pigs. Added point and interest would have been given to a farrowing crate had it contained a litter. The principal exhibit, excellently arranged, concerned *fascioliasis*, and showed living specimens of *L. truncatula* in a good imitation of their natural habitat. By way of contrast, other non-pathogenic snails were also shown.

Messrs. Burroughs Wellcome, Imperial Chemical Industries, and Messrs. Boots had interesting exhibits dealing with the problems of animal health.

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UNIVERSITY OF EDINBURGH DEGREES

At the Graduation Ceremonial of the University of Edinburgh held recently the following former students of the Royal (Dick) Veterinary College received Degrees.

The Degree of Doctor of Philosophy in the Faculty of Science (Ph.D.): John Gordon Campbell, F.R.C.V.S. Thesis: "An Experimental Study of various *in vivo* Methods of Cultivation of Certain Avian and Mammalian Neoplasms, both Spontaneous and Chemically Induced, with Special Reference to Carcinoma of the Liver in the Duck."

The Degree of Bachelor of Science in the Department of Veterinary Science (B.Sc.): Peter Robert Ellis, M.R.C.V.S., James Gourley, M.R.C.V.S. and George Leonard Brunton Henderson, M.R.C.V.S.

CORRESPONDENCE

The views expressed in letters addressed to the Editor represent the personal opinions of the writer only and their publication does not imply endorsement by the N.V.M.A.

Correspondents are requested to write as briefly as possible

"DISEASE AND THE EPIDEMIC: THE HOST, PARASITE AND ENVIRONMENTAL FACTORS"

Sir,—A most interesting contribution, under the above heading by Dr. Stableforth, appeared in the June 26th, 1948, issue of *The Veterinary Record*.

In his brief remarks, about the stock diseases which are transmitted through the agency of insects, he seems to attach much importance to the environmental factors which govern the presence of the intermediaries (vectors) but no mention is made of any direct influence exerted by certain climatic factors on the causal organisms of these diseases when the organisms have become lodged in their intermediaries.

The geographical distribution, seasonal prevalence and intensity of such African diseases as *trypanosomiases, anaplasmoses, theileriases* and *babesiases* in animals, *bilharziases* and *onchocerciases* in man and animals, malaria and yellow fever in man, blue-tongue and heartwater in sheep and cattle and African horse-sickness in equines have in the past been attributed to the presence of their various intermediate hosts at certain seasons of the year.

For years it has puzzled me why certain insect-transmitted diseases, especially tick-borne protozoal and virus diseases of stock, in southern Africa are of seasonal occurrence and are confined to certain areas while the absence of these diseases in other parts could not be attributed to the absence of suitable intermediaries or the non-introduction of infected animals.

At a recent meeting of the Comparative Section of the Royal Society of Medicine the epidemiology of trypanosomiasis was discussed. The two speakers who opened the discussion made no mention of the influence of temperature on the rate of development of the parasites in the intermediaries. When I raised this point one of the openers in his reply pointed out that cases of trypanosomiasis in stock have occurred at high altitudes. I had referred to the peculiar localisation of human trypanosomiasis in Northern and Southern Rhodesia and the Bechuanaland Protectorate where the human disease is not as extensive as animal trypanosomiasis.

Vanderplank (1947) from Tanganyika has recorded a marked increase in the cases of trypanosomiasis in man and animals after the onset of the hot season.

Kinghorn, Yorke and Lloyd (1913) working in Northern Rhodesia found that the tsetse could become infected at 60° F. (15·6° C.) but that no invasion of the salivary glands resulted until the temperature had reached 75° to 85° F. (23·9° to 29·4° C.). The infection rate in "wild" flies was highest when the mean temperature was 79·0° to 87·1° F. (26·1° to 30·6° C.) while no infected flies were caught when the temperature was between 67·2° and 77·5° F. (19·6° to 25·3° C.). Fairbairn (1948) records that the highest transmissibility rate was obtained in October at the height of the hot, dry season, and the lowest in May and June, during the cool period after the rains. Fairbairn does not attribute this increased infectivity of the tsetse to the direct influence of heat on the development of the trypanosomes in the flies. He writes: "The increase in the number of cases noted in the hot dry season is thus probably due to the combined effects of occupation, leading man into fly bush, and an increased proportion of infected flies encountered, owing to the high temperatures of that period."

For the past year or so I have been interested once again in various aspects of human and animal *bilharziases* (vel *Schistosomiases*). The fact that the rate of development and the completion of the intra-molluscan cycle of *Bilharzia spp.* in their respective intermediaries are markedly influenced by the temperature at which the experimentally infected snails were maintained, induced me to compare the monthly mean air temperatures of various places in known endemic areas. This investigation revealed that the two common African species of man, compared with certain animal species, require a higher temperature for development in their molluscan hosts. This may explain why some of the animal species occur in areas (Corsica, Sicily, South of France, Sardinia and North China) where the human species are not endemic. *Ornithobilharzia turkestanica* can evidently develop at lower temperatures than either *Bilharzia bovis* or *B. mattheei*. Hitherto I have failed to establish *B. mattheei* in the intermediate host (*Bulinus truncatus*) of *B. bovis*.

Gordon, Davey and Peaston (1934), experimenting with *B. mansoni* and *B. haematobia* (common African parasites of man), found that the intra-molluscan cycle in the case of *B. mansoni* could be completed in approximately 33 days at a temperature of 22° C. (71·6° F.) while that of the other species was completed only in about 66 days.

It may be reported here that the escape of cercariae from the snails in the case of *B. mansoni* and *B. mattheei*, according to my observations, is governed solely by temperature and not by direct light, etc., as claimed by some workers.

The temperature requirements of the various species of *Onchocerca* parasitising animals, would seem to vary. The human species and some of the animal species appear to have remained confined to the tropics while others occur in the tropics as well as in temperate climates.

It has to be concluded that temperature has a well defined direct influence on the rate of development of certain disease-producing parasites in their intermediaries and that temperature and not the mere presence of the intermediaries is the important factor which governs the geographical distribution, seasonal incidence, rate of spread and intensity of the tropical diseases of man and beast.

Veterinary text-books deal very superficially with climatology and very scanty reference to this important subject is made in the course of Veterinary Hygiene. This may explain why climatology has been overlooked unduly in the control and eradication of disease in man and animals. The seasonal prevalence of several animal diseases (*e.g.*, Summer mastitis, digestive troubles, etc.) in temperate zones may be directly or indirectly connected with temperature.

Most publications which deal with climatological statistics, contain little or no data about earth and water temperatures. The blood-sucking insects, with the exception of the ticks, feed only for short periods and spend the rest of their lives in close proximity to the ground. The African intermediaries of bilharziasis are aquatic molluscs and the temperature of the water will be an all important factor in the spread of the disease. Water and earth temperatures are materially affected by hours of sunshine and may often be much higher than the mean air temperature in the same locality.

Yours faithfully,

P. L. le Roux.
Department of Parasitology,
London School of Hygiene and Tropical Medicine,
Keppel Street, London.

References

Fairbairn. (1948.) *Trop. Dis. Bull.* **45** (1).
Gordon, Davey & Peaston. (1934.) *Ann. Trop. Med. & Par.*, **28** (3).
Vanderplank. (1947.) *Ibid.*, **41** (3 & 4).
Kinghorn, Yorke & Lloyd. (1913.) *Ibid.*, **7**.

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STERILE INSTRUMENTS AND TUBERCULOSIS

Sir,—May I first quote from a letter, signed by Mr. R. Neesham, manager of the Veterinary Department of Messrs. Burroughs Wellcome & Co., which appeared in *The Farmer and Stock-Breeder*, June 15th, 1948, in connection with the use of the penicillin tube method for mastitis treatment. The emphases are mine.

"Your article did not accuse veterinary practitioners of carelessness or negligence but did point out that the use of single dose containers removed the risk that udder tuberculosis might be spread by intramammary injections. *It is true that such spread of tuberculosis has occurred in this country even during research work testing the value of intramammary injections. Then there was better opportunity to avoid such a happening than in ordinary practice.*

"The fact is that it is difficult to sterilise apparatus against the tubercle bacillus and THE ONLY CERTAIN PREVENTIVE MEASURE IS THE USE OF APPARATUS WHICH CAN BE DISCARDED AFTER EACH INJECTION. It was, in fact, THIS RISK of the spread of tuberculosis which stimulated British research workers to devise the single dose intramammary injection."

If this second paragraph is true then, despite the routine boiling for 30 minutes, which one normally carries out, of instruments used in the treatment for infertility, there is still a risk of spreading disease. Thus there is no justification for taking the smallest or slightest risk of spreading tuberculosis. If there are any of us who, through lack of experience and/or opportunity, have not yet seen how disastrous tuberculosis can be, then a visit to any of our sanatoria throughout the country will bring all points home. Seeing a *post-mortem* examination at the knackers, even if the condition was regarded as generalised tuberculosis, has not, apparently, in the past always suggested to the observer the seriousness of the disease.

Therefore, as regards uterine irrigations, the sooner we have an alternative method the better. To find this one has tried (and is still trying). Perhaps some of our colleagues, with a more inventive type of mind than mine, can produce some method, safer, yet convenient and economical to use.

Yours faithfully,

J. E. Johnson.
Fieldhead,
Whickham,
Newcastle-upon-Tyne.

July 4th, 1948.

THE VETERINARY SURGEONS BILL

Sir,—In reply to Mr. J. F. D. Tutt's further letter of the 19th ult., as a member of Council I do not feel at liberty, at the present juncture, to reply to the "revelations" made by Mr. Tutt of *his* recollections of the proceedings of Council, R.C.V.S. in reference to the Veterinary Surgeons Bill.

The purport of my letter was to challenge Mr. Tutt's previous assertion that Council, R.C.V.S. by the resolution passed on April 29th had surrendered the title "without so much as a skirmish." The issue is clear cut and needs no further revelations to enable it to be answered. Does Mr. Tutt seriously maintain that the Council, R.C.V.S. surrendered the title "without so much as a skirmish?" His knowledge of the negotiations, the President's communications to members and my letter of the 19th ult. will doubtless help him decide.

I am sorry I cannot benefit from reading the lines 215 to 228 Canto 1 of Butler's "Hudibras," Vol. 1, as they are unfortunately not included in my book of "quotes," neither can I find them in my "excerpts from the classics." I can, however, reciprocate by quoting from memory the very low-brow motto of a few golfing friends of mine who play annually in very sporting competition for a certain challenge cup—"If you can't be fair—be fairish."

Yours faithfully,

12, Landguard Road, G. N. Gould.
Southampton
July 3rd, 1948.

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JEWISH AND MOHAMMEDAN METHODS OF SLAUGHTER

Sir,—A copy of the April 24th issue of your esteemed journal has been forwarded to us by an English friend of ours who happens to be your regular reader. We read with great interest the letter of Mr. H. E. Bywater, the Chief Veterinary Officer, West Ham. It appealed to us because of his friendly and sympathetic attitude towards the sister religions of Judaism and Islam. Besides he has the open mind of a scientist. We are consequently recommending its perusal to our own readers in the course of an editorial.

We are much interested in all that he says about the Jewish method of casting and positioning the animal for slaughter. From what he says it seems that the Western Jewish method of casting the animal is far more complicated than the simple Eastern method of the Muslims.

In this latter case the casting is done by expert hands and consists purely of manhandling which completes the process of casting and positioning in a minute or two and this without causing any appreciable hurt to the body of the animal. It is worth recalling in this connection that the casting is also done in the East when shoeing bullocks used for drawing carts. In neither case does one detect any noticeable injury on the body of the animal so cast. As the writer of the article under discussion rightly observes, we Muslims are always willing to use humane methods that may be invented from time to time in all the different stages of slaughter. And yet we doubt if we can go as far as Mr. Bywater wants us to go, *viz.*, "to render the beast unconscious before the cutting of the throat." While we say this we assure the protagonists of Western "humane" killing that we are not an inch behind them in our anxiety to be tender and humane towards the animals killed for food. Our Christian friends would do well to remember that the founder of Islam is the only religious Law-giver who has left detailed instructions for the humane treatment of animals used either for conveyance or for food. He assured a woman who had appeased the thirst of a dog that she would go to heaven as a reward for this act of kindness and gave the news of hell fire to another woman who had starved a cat to death. His injunctions to his followers for kind treatment to the beasts of burden have become almost proverbial. As for the animals for slaughter, he says:—

"Let one of you sharpen his knife and give ease to your sacrificed animal." (Muslim).

This general instruction of the Prophet must cover all the steps that may be taken, at all stages, to humanise the process of slaughter. Indeed the Prophet has gone to such a length in this matter as should be envied by the most tender-hearted amongst the lovers of animals who yet take meat.

"Inbi-Umar reports, 'I heard the Messenger of God forbidding to keep a quadruped or any other animal waiting for slaughter.'" (Agreed).

With all this, however, we Muslims are not yet sure if the Western method of stunning the animal before actual slaughter will be acceptable to us from either the rational or the hygienic point of view. We note the writer's remarks:—

"An analysis made on behalf of the R.S.P.C.A. of the results of exhaustive experiments shows that the bleeding of animals which have been stunned before death is as great as the bleeding of those in which consciousness has been present."

Nevertheless, we are inclined to think that the stunning does affect the bleeding in the course of slaughter inasmuch as the blow that renders the animal unconscious has a paralysing effect on all the muscles—and the heart has its muscles too. It is not unreasonable to think that in the absence of proper functioning of the heart muscles the circulation of blood must be vitally affected, thus rendering it impossible to get "well-bled meat"—the object of the Jewish and Muslim methods of slaughter. An allied fact of anatomy may help us to understand this fact more clearly. It has been considered necessary by the medical profession to keep a patient fully conscious in order to examine the actual functioning of certain inner organs of the body such as the kidney. It will not be illogical to infer from this that the function of the heart must be weakened more or less when an animal is rendered unconscious.

Added to this is the consideration that there is the possibility of the animal dying instantaneously as a result of the blow, intended to make him just unconscious. This is a very weighty consideration for communities that would not take any meat that is not thoroughly bled.

It is interesting to note that while your experienced correspondent starts with the words: "This is not intended as an appeal to sentiment, it is an appeal to reason," the article is actually surcharged through and through with a veiled sentimentalism. We should not forget that the pain involved in killing is the same whether, when death occurs, the animal is conscious or unconscious. The only consideration therefore should be the actual time taken in the act of killing. We are still to be convinced that the double process of stunning and cutting the throat is a shorter course of the agony of death than the single process of cutting the throat of the animal in a state of consciousness. The hard blow suddenly paralysing the sensorium of the animal may appear at first sight to be devoid of pain but it is doubtful if it is really so. In actual cruelty it may even surpass the quick cutting of the throat in a state of consciousness. Again in this state of unconsciousness the animal may not feel the pain of slaughter in a tangible form and may not give expression to it on account of the dislocation of the centre of perception, but reason suggests that the pain involved is there all the same. So in the last analysis it is a question of sentiment that sees humaneness in the slaughter after stunning and if one follows this logic, if this can be called logic at all, one may abhor the very act of killing animals for the pleasure of eating meat.

We Muslims are required by our Prophet not to take any life unnecessarily and not to cause any pain to any living creature that can be avoided. The Prophet has gone so far as to forbid killing of snakes that have no poison. Following this spirit we are prepared to avoid all unnecessary pain to an animal which we are to kill for the purpose of necessary meat. But any method claiming to humanise the act of slaughter must be based on purely scientific grounds and as such must really appeal to reason and not to sentiment either overt or covert.

Yours faithfully,

Islamic Review Office, Aftabud Din Ahmad,
Brandreth Road, Editor, *Islamic Review*
Lahore, and Ex-Imam, Mosque,
Pakistan. Woking.
June 29th, 1948.

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"THREAT TO FIELD SPORTS"

Sir,—I have just seen the letter in your June 12th issue "Threat to Field Sports." The writer seems to think that the Bill to ban hunting will interfere with the livelihood of veterinary surgeons. May I suggest that, if anything, veterinary surgeons will, when the Bill is passed, have more work than before. The elimination of hunting will cause greatly increased numbers of poultry to be kept as when the fox menace is removed more and more people will be encouraged to go into poultry farming. It will also benefit the sheep industry as according to recent Press reports, foxes killing sheep have already put several sheep breeders out of business. Generally the abolition of hunting will prove a stimulus to the countryside. Further there is no reason at all why drag hunts should not replace the pursuit of a live animal. If the concern of veterinary surgeons is to relieve animal suffering they should welcome this Bill.

Yours faithfully,

The National Society for E. G. Barlow,
Abolition of Cruel Sports, Secretary.
9, St. James Road,
Harpenden, Herts.
July 6th, 1948.

A national service which bears in a now familiar form our national colours—red tape, White Papers and blue prints.—Mr. Edward Samson, retiring President of the British Dental Association.